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DIVISION NIGHT ATTACK DOCTRINE

**A thesis presented to the Faculty of the U. S. Army
Command and General Staff College in partial
fulfillment of the requirements of the
degree**

MASTER OF MILITARY ART AND SCIENCE

**by
GORMAN C. SMITH, Major, U. S. Army**

**Fort Leavenworth, Kansas
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The opinions and conclusions expressed herein are those of the individual student author and do not necessarily represent the views of either the United States Army Command and General Staff College or any other governmental agency. References to this study should include the foregoing statement.

The requirement for review of current division night attack doctrine is found in the apparent inconsistencies, ambiguities, and omissions of current doctrine. Present division night attack doctrine is alleged to fall short of a coherent, organized framework for treating all the relevant effects of night on relative combat power.

The fundamental characteristic of night--reduced visibility--is examined to trace its origin, nature, and impact on military environment. It is shown that darkness clearly reduces the absolute combat power of any military force by making any job harder to do than that same job is in daylight. The relevant effect on military operations is the influence of darkness on the relative combat power of two opposing military forces.

All possible forms of combat power are classified into four major types by using the factors of friendly and enemy fire and movement. Thus, type I conflict is friendly movement vs. enemy fire; type II is friendly movement vs. enemy movement; type III is friendly fire vs. enemy fire, and type IV is friendly fire vs. enemy movement. Combat power is the ability to engage in any of these forms of conflict. All activities which generate combat power do so only insofar as they enhance the ability of the force to engage in one or more of these four types of conflict.

Treating each type of conflict separately, there are three possible effects night can have on an attacker's relative combat power: increase, leave unchanged, or decrease. That is, the attacker may be

better, just as well, or less able to attack at night as he was during daylight. Depending on the particular combat power relationship which exists in daylight, there are 13 possible cases for the net effect of night on relative combat power in any single form of conflict. Since there are four forms of conflict, there are in all 52 possible effects which night can have on the relative combat power of an attacker. These 52 cases are included in a comprehensive analysis which, though it cannot insure good decisions, can insure that the commander's attention is focused on all the relevant considerations when trying to estimate the influence of night on the division's ability to attack. Night's action as a powerful equalizer when two forces with unequal daylight combat power oppose each other is predicted because night makes any superiority of combat power much harder to apply effectively.

Use of the analysis is illustrated by two brief examples. The analysis is then tested against recorded military experience with both successful and unsuccessful night attacks. This experience confirms the analysis, pointing up vividly the role of darkness as favoring the force which has the least daylight combat power.

Three developments since World War II and Korea, to include the introduction of nuclear weapons into the division's arsenal, are considered. The division's night attack capability is found to be quite insensitive to reorganizations above the company level. It is predicted that nuclear weapons will be extremely difficult to employ to advantage in the night attack because of problems of dazzle. New mechanical mobility and electronic surveillance means should materially enhance the division's absolute night attack capability over that of the World War II division.

Specific doctrinal implications are drawn. Principally, these are that doctrine should provide a systematic framework for use by commanders in considering the influence of darkness on relative combat power. This framework can help the commander focus his attention on all the relevant considerations. Thus, when he has a choice the commander is better able to decide whether or not attacking at night is to his advantage. When he is required to attack at night the commander is assured that he considers the possible opportunities which might be exploited and the possible pitfalls which require special attention. With such a doctrine, the best use of available divisional resources is more likely than with the current night attack doctrine.

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CHAPTER I

THE NEED FOR NEW DOCTRINE

A critical examination of the night attack doctrine for the recently reorganized army division (the "ROAD" concept) implies some deficiency in current doctrine. The principal shortcoming of current doctrine is one of omission; it fails to provide the best guidance which can be distilled from reasoning and experience. A secondary shortcoming is the failure to organize the guidance which is presented into a unified and orderly presentation. This failure invites misunderstanding of important elements of night operations and leaves significant aspects of night attacks covered only by implication.

The ultimate use of doctrine, after all, is as guidance. As defined in the Dictionary of U. S. Army Terms, doctrine consists of those "principles, policies, and concepts, applicable to a subject, which are derived from experience or theory, compiled and taught for guidance. It represents the best available thought that can be defended by reason."¹ Therefore, to say that current doctrine does not offer sufficient or proper guidance is to say that current doctrine is in fact incomplete.

¹U. S., Department of the Army, Dictionary of U. S. Army Terms, Army Regulation No. 320-5 (Washington: Department of the Army, 28 February 1963), p. 140.

Present night attack doctrine is alleged to be incomplete in that it fails to offer useful guidance to the commander on the circumstances and conditions which favor use of the night attack at division level. Current doctrine on night attacks, as contained in Field Manual 61-100, The Division, focuses almost exclusively on how to conduct a night attack.² Nowhere is there an explicit treatment of the considerations which should bear on the decision to attack at night. Some reasons for making night attacks are listed, but this listing intermingles without explanation examples of two fundamentally different reasons.

The division attacks at night either because it is ordered to do so or because the commander elects to do so. The division may be ordered to attack at night by giving it a specific time of attack in its mission or by giving it a mission which requires it to attack at night. Examples of the latter case might be continuation of an attack to exploit success, seizure of an objective by a specified time, maintenance of contact in the pursuit, and similar missions which dictate immediate action regardless of the time of day.

It stands to reason, however, that the division commander will from time to time have considerable latitude about when to conduct his attack. Current doctrine gives him only spotty guidance about the conditions likely to favor the night attack. What little guidance there is on when to conduct a night attack reads "The division attacks at night to continue an attack started in daylight, to achieve surprise and

²U. S., Department of the Army, The Division, Field Manual 61-100 (Washington: Department of the Army, 4 January 1962, with Change No. 1, 27 March 1963), pp. 120-24. Hereinafter cited as FM 61-100.

psychological superiority, to gain important terrain for further operations, to use concealment afforded by darkness in order to avoid heavy losses, to exploit, and to compensate for friendly air and armor inferiority."³

The intermingling of situations where the division is forced to attack at night and those where it elects to attack at night shows up sharply in this paragraph. Moreover, some of the reasons adduced here for night attacks (continuation of the attack, exploitation, gaining of important terrain) are also reasons for daylight attacks. Therefore, listing these reasons does not help the commander faced with deciding whether to attack in daylight or at night. This failure needs correction.

The secondary shortcoming of current doctrine flows from the first one. The absence of any comprehensive and organized treatment of the considerations of night attacks leaves current doctrine with a number of statements which border on being mutually contradictory.

For example, some statements emphasize the normalcy of night operations.

Night combat is an integral part of all operations. Movement, attack, exploitation, and defense at night are routine. However, certain aspects and considerations must be recognized during the planning and execution of operations at night. These involve the increased difficulty of control resulting from reduced visibility.⁴

The same considerations of planning, preparation, and conduct apply to attacks at night as apply during daylight. The same forms of maneuver may be used.⁵

³Ibid., pp. 120-21.

⁴Ibid., p. 119.

⁵Ibid., p. 120.

The procedures involved in planning attacks at night are the same as for daylight attacks.⁶

Yet, intermingled with these doctrinal assurances that there really are no basic differences in daylight and night attacks are other statements of doctrine which can reasonably be interpreted as indicating that there are in fact some very important differences.

Night operations which achieve surprise may offer opportunities for success when daylight operations are impracticable.⁷ Troop movements, concentration of forces prior to the attack, and conduct of the attack which may be impossible during daylight may be executed in darkness with minimum risk.⁸

The last statement in particular cries out for a more detailed explanation. What is it about night operations which transforms what was "impossible" during daylight into that which can be done "with minimum risk" at night? The question remains even after allowing for the presumed intended meaning by substituting "unduly risky" for "impossible" and "at acceptable levels of risk" for "minimum risk."

Morale of troops both friendly and enemy is highly sensitive to physical and psychological factors. Reverses and failures at night generally affect troops more than the same reverses or failures would in daylight. Well-trained troops, confident of their ability to fight at night, can use these psychological factors in their favor.⁹

The last sentence raises a very interesting question. What about troops who are not so well trained and who are not necessarily confident of their ability to fight at night? Are they not likely to be especially susceptible to the deleterious influences of the undisclosed "psychological factors" present in night combat? What are these

⁶Ibid., p. 121.

⁷Ibid., p. 119.

⁸Ibid. (Emphasis supplied.)

⁹Ibid., pp. 119-20.

special psychological factors? How do they impinge on planning for decisive operations, and how can they be countered or exploited, as the case may be? Here again, present night attack doctrine seems to suffer from substantial ambiguities and serious omissions.

Nor are these shortcomings limited to the one field manual on the division. The fount of all tactical doctrine, Field Service Regulations - Operations, opens its discussion of night maneuver with, "Night attacks and night movement are normal operations that offer an excellent opportunity for deception and surprise."¹⁰ Yet nowhere in the following discussion is there any justification for lumping attacks and movements into a single category, although an attack obviously involves a great deal more than movement (movement will usually be one of many actions included in an attack). Nor is there any explanation of the anomaly contained in the cited statement; why, if in fact night attacks are normal operations, do they afford such an excellent opportunity to achieve surprise? Finally, the sentence fails to distinguish between surprise, the effect gained, and deception, one of several measures which can help to achieve surprise.

Again, the point here is simply that currently published night attack doctrine does not now appear to represent ". . . the best available thought which can be defended by reason."

In addition to these deficiencies of existing doctrine, a third reason for undertaking this review is that the "ROAD" organization represents the third major reorganization of the Army's divisions

¹⁰U. S., Department of the Army, Field Service Regulations - Operations, Field Manual 100-5 (Washington: Department of the Army, 19 February 1962), p. 66.

since the end of World War II. Only in the addition of remarks embracing the employment of nuclear weapons has there been over this same period any significant change in doctrine for the night attack. This can mean either that the extensive organizational changes have had no influence on the doctrine for night operations or that the influence has not yet found its way into doctrine. In any case, the divisions have not been reorganized for the sake of change alone. These reorganizations have been caused by actual and expected changes in weapons, equipment, and their expected conditions of employment. The really pertinent question then becomes, have the changes which dictated these reorganizations had any impact on night attack doctrine, and if so, what is the nature and extent of that impact?

This analysis will attempt to answer that question and correct the two alleged deficiencies of current night attack doctrine.

Chapter II outlines in detail some definitions of terms and spells out the changes wrought on the military environment by nightfall.

Chapter III develops a theoretical framework incorporating the influence of darkness on the division's ability to conduct an attack. This framework is designed to offer guidance about conditions favoring or mitigating against the night attack.

Chapters IV and V test this framework against the experience of military history to generate evidence on the validity of the analysis developed in Chapter III.

Chapter VI treats major changes since Korea.

Chapter VII contains the conclusions and recommendations. Specific recommended doctrinal changes to FM 61-100, The Division, are contained in an appendix to Chapter VII.

CHAPTER II

THE PROBLEM AND ITS SETTING

The fundamental difference between day and night is obvious; at night it gets dark. Technically, night is characterized by a reduction in illumination levels. This reduction is large enough to impair seriously the utility of vision as a means of gathering information about one's environment.

Human eyes are designed to operate best at relatively high levels of illumination. Moreover, humans secure a major portion of their total information by vision. In darkness, humans are both deprived of some of the total amount of information which had been available during daylight and provided a much greater share of the total information they do have through senses other than vision.

These human physical characteristics have given rise to long established patterns of behavior regarding day and night.

Escape from danger by fleeing has always been one of the most fundamental forms of individual defense. Hence, the reduced visual perception associated with night has meant an increase in danger for at least two reasons. Vision is one of the principal sources of warning on the approach of an enemy; and even if some other sense provided the warning, the pursuer with good night vision often has a decisive advantage over the pursued with vision designed for daytime

operation. Hence the almost universal habit of man--and most other animals as well--of seeking shelter at night.

Moreover, all creatures require rest. Equipped to work best by day and fearful of enemies--real or imagined--by night, most creatures combined the necessity to rest with the desire to hide. Night has been the province of those creatures--usually predators--equipped with the special devices required to operate effectively in the darkness. Night has been from antiquity, then, an "unnatural" time for human activity. It remains so to this day. Were night operations in fact normal in a meaningful sense, it would have been unnecessary for the commander of the U. S. Army Field Forces to specify in a 1951 directive that one third of all tactical training be conducted at night. Yet he did so specify¹ because many military functions must be performed at night and because individuals must be trained to operate in the dark.

The impact of darkness on the performance of military functions flows from the changes in the military environment brought on by nightfall. These changes can be considered in two major categories, one physical and the other psychological. Consider first the physical changes.

Reduced illumination not only restricts one's vision, but also changes substantially the nature of the vision which remains. The amount of terrain in the effective visual field is reduced sharply. Moreover, the images of that terrain and features on it which can still be seen are changed because the number and strength of the visual cues

¹U. S., Department of the Army, Army Field Forces, Training Memorandum No. 1 (Fort Monroe, Virginia: Office of the Chief of Army Field Forces, January 1951), par. 30.

available to one decline sharply; even the characteristics of sound transmission are considerably different at night from those of daytime.² The magnitude of this reduction in vision varies with the particular light conditions encountered and the visibility characteristics of the objects concerned. For example, Table 1 contains the distances at which a man dressed in a khaki uniform may be seen at night under stated conditions of illumination.

TABLE 1
EFFECT OF ILLUMINATION LEVEL AND
BACKGROUND ON DISTANCE AT WHICH
KHAKI-CLAD MAN IS VISIBLE TO
UNAIDED EYE³

Illumination	Background		
	Snow or Sky	Grass	Plowed Field
Full Moon	300 yards	150 yards	100 yards
Half Moon	150 yards	75 yards	50 yards
Starlight	100 yards	30 yards	15 yards

This table illustrates the extremely wide range of visibility conditions as well as the overall reduction of visibility which characterizes night operations. At full or half moon illumination levels

²Gilbert L. Neal, A Provisional Core Curriculum for Infantry Night Operations Training: Conceptualization and Proposed Content (Fort Benning, Georgia: U.S. Army Infantry Human Research Unit, December 1960), p. 15.

³Donald A. Gordon, A Survey of Human Factors in Military Night Operations (With Special Application to Armor) (Fort Knox, Kentucky: U.S. Army Armor Human Research Unit, November 1957), p. 6.

many military operations can be conducted with no appreciable loss of efficiency over daylight. The restriction of long range observation while retaining adequate short range observation is the very combination of effects which can make night attacks so effective under certain circumstances. At levels of illumination characterized by starlight and lower, visibility becomes so restricted that effective performance of basic military tasks becomes exceedingly difficult and in some cases impossible. Under these extremely dark conditions, ". . . rapid and effective shooting, driving, bridge building, evacuation of the wounded, clearing of minefields, map reading, gun laying, and instrument reading are not to be expected."⁴ Night attacks under such conditions are likely to be exceedingly risky operations because effective control will be so hard.

Again, as was the case with visibility, the nature of the particular task and the specific equipment involved will cause the impact of very low levels of illumination on the efficiency of job performance to vary widely. "Darkness is much more of a handicap to the tanker with his long range armament than to the infantryman with his relatively short range weapons."⁵

The second physical change is that in the nature of night vision aside from the question of the total amount of vision possible. The significantly changed nature of night from day vision arises from the physiological differences between the way the eye "sees" at low levels of illumination and the way it "sees" at high levels of illumination.

⁴Ibid., pp. 6-7.

⁵Ibid., p. 7.

There are separate physical facilities in the eye for day and for night vision, and each functions in its own way.⁶ For example, color perception is not possible at levels of illumination requiring use of the night vision part of the eye's equipment. Another cause for difference is changed visual acuity from day to night. Because acuity of vision depends principally on the brightness contrast of the object being viewed against its background and partly on the level of illumination, visual acuity--the ability to see detail--is sharply reduced at night.⁷

Moreover, the process of switching from one to the other of the visual methods takes time.⁸ The adaptation from high to low levels of illumination is the slower of the two adaptive processes, and this adaptation can be lost quickly by exposure to high light levels.⁹

Finally, the two methods of vision differ in that even after night adaptation is complete, there remain some problems in visual perception which are peculiar to low levels of illumination. Three major ones are autokinesis, wherein a stationary light appears to make random movements; illusions of lateral movement by the viewer or illusions of target displacement; and sensations by the viewer of tilting or turning. These effects are caused by the reduction in visual cues available for orientation.¹⁰

⁶E. G. Boring (ed.), Psychology for the Armed Services, prepared by a Committee of The National Research Council (Washington, D. C.: The Infantry Journal Press, 1945), p. 25.

⁷Ibid., p. 29.

⁸Ibid., pp. 51-52.

⁹Ibid.

¹⁰Gordon, op. cit., p. 13.

These factors combine to create significant differences in the amount, kind, and source of day and night vision. Since most people are not familiar with the night vision part of their dual capability, they are doubly disadvantaged when required to operate at night. In an attempt to offset the disadvantages of reduced and changed visibility at night the military services have developed extensive training programs in night vision. Although the principles of these training programs are valid in relation to laboratory findings about the physiology of night vision (use of rods and cones, maintenance of visual purple, etc.), the impact of specific training in night vision on performance of military tasks in the field has not been established. One investigation concluded:

No evidence is available on the effectiveness of a night vision training program as evaluated by performance in an actual field situation. An experimental evaluation of these programs would supply very crucial information which is at present missing. As evaluated by simple testing devices, training is relatively ineffective.¹¹

Closely bound up with the changes in the amount, nature, and method of visual perception from day to night are the changes in sound transmission which occur at the same time. These changes are caused by the changed temperature and density of the air as it usually cools during darkness. Thus, sounds carry farther in many instances, and directional orientation is harder. At many night time levels of illumination sounds will carry farther than one can see. The opposite is usually true in daylight, except in fog, smoke, or other restricted visibility conditions. Thus, humans are accustomed to being able to

¹¹H. Sharp, D. Gordon, and M. Render, Review of Studies of the Effects of Training on Night Vision Ability (Personnel Research Branch Report 974) (Washington, D. C.: Personnel Research Branch, The Adjutant General's Office, Department of the Army, August 1952), cited in Gordon, op. cit., p. 17.

see farther than they can hear; at night this relationship is normally reversed.

Other physical changes from day to night are usually less important than those of reduced visibility, altered nature of vision, and different sound transmission. Nights are generally cooler than days, and this may be significant in desert or arctic operations. Such other physical differences as may exist are likely to be of secondary importance, however, because the role of vision is so central to the conduct of combat.

The psychological influences of night arise both from the physical changes in the environment and from the general unfamiliarity of humans with night operations. That which is unfamiliar is much more likely to breed fear than that which is familiar.¹² Hence, the normal fear felt by persons who consider themselves to be in danger of physical harm is magnified by the unfamiliarity of operating at night. At the same time the individual's ability to relieve his anxiety by getting accurate and timely information about his environment is decreased. Things look different, even when they can be seen. Sounds unaccompanied by visual cues reach the individual, calling on the imagination for interpretation. Under conditions of real or imagined personal danger, one's imagination can quickly supply a host of ominous interpretations to even the most commonplace sounds if the origin of the sound is uncertain.

At the same time, the leadership is harder and the calming example of other members of the unit is less readily available. For

¹²Boring, op. cit., p. 386.

these reasons, the psychological factors so crucial in any combat situation assume even greater importance at night. Individuals must depend more on training, discipline, and morale for reinforcement of their desired actions because support from others is less readily available at night. Under such conditions prevailing psychological attitudes are an increasingly important element in total combat power. Such attitudes are also likely to change more rapidly and more violently at night than in daytime. Panic may spread faster, once started, and may be harder to stop. Similarly, the exuberance of success under what are considered trying circumstances can add materially to an attacking unit's total combat power.

In summary, humans have generally preferred operating in daylight because they are better equipped for it than they are for operating at night. The kinds of human activity done voluntarily at night are those which depend for their success on reduced visibility. Thus, burglars operate at night because their biggest risk is the threat of detection, which is minimized at night both because visibility is reduced and because most people sleep at night. Other kinds of human activity are performed of necessity and in spite of the disadvantages of darkness, not because of any advantages. Much military activity falls into this category.

How, then, do the physical and psychological differences between day and night affect military operations? More specifically, how do they affect the division in the attack? The specific analysis of this latter question is the subject of the next chapter.

Unfortunately for the analyst, "division in the attack" can be an ambiguous term. If one incorporates therein any operations of any

of the division's subordinate units, one soon winds up treating squad, platoon, company, battalion, and brigade operations. If one takes the other tack and treats as division operations only those involving the coordinated employment of two or more brigades (battle groups, regiments), one restricts the body of experience to unrealistically small dimensions. Finally, if one elects to go between the horns of this dilemma, one assumes the burden of justifying the particular dividing line between division and other operations.

The only practical course is to classify as "division attacks" those attacks involving a major portion of the division's committed maneuver units. "Major portion" will have to lean on the weak reed of judgment; something on the order of one-half or so is a reasonable first approximation, but each case has to be decided on its own circumstances.

Thus, if the division has two brigades committed, each brigade has three battalions committed, and one of these six committed battalions makes a night attack while the other five do not, this is not considered a division night attack. The majority of the division's maneuver units were committed in a daylight role in this case. The example here would be classified as a battalion night attack.

On the other hand, if the division is attacking in a column of brigades, which in turn are using a column of battalions, and these in turn are in a column of companies and the lead company makes a night attack, this is at once a company, battalion, brigade, and division night attack.

The principal justification for this classification scheme is simply that it encompasses the bulk of the maneuver unit part of the

division's committed combat power, hence the major portion of the resources aimed at accomplishing the division's mission. As such, the employment of these resources would be of primary concern to the division commander, though of course he would not necessarily control the committed elements directly.

A further complication arises in defining precisely a night attack. The problem here is that the division may conduct continuous operations which may span one or several day/night sequences. For the purposes of this study, a night attack is an attack in which at least one of the major maneuver functions (movement to gain advantage over enemy or assault) is carried out at night. That is, merely assembling and crossing the line of departure before dawn or reorganizing an objective after dusk does not constitute a night attack. On the other hand, a unit which moves into assault positions by night and assaults at dawn has, under the definition here used, conducted a night attack.

Night, of course, extends from the end of evening nautical twilight (EENT) on one calendar day to the beginning of morning nautical twilight (BMNT) on the next.

Thus, a division night attack is an attack in which a major portion of the division's committed maneuver units execute at least one of the major movement tasks of the attack between EENT and BMNT. With this definition in mind, consider now the influence of darkness on the division's attack capability.

CHAPTER III

THE THEORY

The outcome of any combat is a result of the interplay of four forces: fire and movement by the attacker and fire and movement by the defender. Fire and movement are here used in their broadest sense, to mean the ultimate effect or result created on the battlefield. This classification in no way degrades the importance of the division's mission, the terrain and other physical characteristics of the area of operations, the enemy force, and the division's own forces available. Rather, the host of considerations which bear on the division's conduct of combat do so because they influence either the division's or the enemy's ability to fire or maneuver or both.

For example, the division's mission is of central importance because it dictates whether and to what extent the division will be called on to use fire and maneuver to perform that mission. If the division is to attack to seize and secure a specific terrain feature, movement will of necessity be required. If the division's mission is to destroy an enemy unit, it may be able to do so by fire alone if it catches that unit bunched up in an assembly area or if that unit attacks the division while the division is in strong defensive positions.

By the same token, the enemy's mission, weapons, tactics, equipment, logistical posture, determination to fight, morale, and a myriad of other considerations will influence the kind of fight he puts

up. If the enemy flees precipitously in the face of the U.S. division, perhaps not a shot will be fired and movement alone will decide the outcome of the encounter. A stubborn defense, on the other hand, will mean that each side will use both fire and maneuver.

In any case, the point is simply that all the factors which influence the outcome of an armed encounter can be reduced to their influence on the ability of the forces engaged to fire and to move. The relevant considerations are by no means all physical. Morale, esprit, dedication, determination, leadership, and other moral influences affect the outcome of an encounter--they often tip the scale one way or another in the face of seemingly overwhelming physical odds--because they impact on the ability of the opponents to fire, to move, or to do both. Put another way, no factor which does not help a friendly unit move or shoot or hinder the enemy's ability to move or shoot is going to have any influence on the outcome of a battle.

If this be hard to accept, try to think of an influence which is important to the outcome of a battle which does not affect--directly or indirectly--fire or movement of at least one of the forces involved. Then explain--without reference to fire or movement--why that influence affects the outcome of the battle.

Both friend and foe use fire and movement to try to amass a superiority of combat power at the decisive place and time. Thus, there are only four interfaces, or possible areas of direct conflict, between any two military forces. These are illustrated in Chart 1.

Friendly movement vs. enemy fire (Type I) is characteristic of most attacks, because the attacker usually has to maneuver to gain

CHART 1

THE FOUR TYPES OF CONFLICT

FRIENDLY

E
N
E
M
Y

	FIRE	MOVEMENT
FIRE	TYPE IV (Fire vs Fire)	TYPE I (Movement vs Fire)
MOVEMENT	TYPE III (Fire vs Movement)	TYPE II (Movement vs Movement)

success, while the defender usually tries to prevent that movement by fires. The enemy uses his fires to degrade the friendly movement capability.

Friendly movement vs. enemy movement (Type II) can take the form of turning movements, pursuits, and other actions in which two moving forces seek a relative position advantage over each other. Here the enemy's movement capability may or may not be degraded; in either case advantage of position is sought by movement.

Friendly fire vs. enemy movement (Type III) is the attempt to use fires to prevent the enemy from gaining an advantage by maneuvering his troop units. Fires on routes of reinforcement and fires to isolate the objective area to preclude the escape of a beaten enemy are examples. The division attempts here to degrade by fire the enemy's movement capability.

Friendly fire vs. enemy fire (Type IV) takes the form of counterbattery fires, fires to keep troops in positions from using their weapons, fires to destroy enemy weapons or the troops manning them, and the like. The aim in this type of conflict is to degrade by fire the enemy's fire capability.

Depending on the particular set of circumstances existing in an action, one or more of these forms of conflict will occur. The relative importance of each form of conflict will change with changes in the fundamental conditions of the military environment. All considerations of equipment, training, mission, terrain, logistical status, leadership, willpower--in fact, any consideration which affects the ability of either of the two forces to perform either of the two functions--will influence the nature of one or more of the four types of

conflict. Only as such considerations influence one or more of the four types of conflict can they influence the outcome of the total encounter.

The outcome of the total encounter is then, by definition, the resultant of the opposing forces set up at each of these conflict interfaces. Thus, a combatant who has a superiority in only one type of conflict (say, friendly movement vs. enemy fire) may win a victory, even though he is at a disadvantage in the other three types of conflict. This could happen for either of two reasons.

First, movement vs. fire may be the only type of conflict in the total encounter. In this case, the one who is superior in the only type of conflict used will clearly win the total encounter. This statement is nothing but a definition of superior combat power, really.

The second reason a combatant may prevail when superior in only one type of conflict is that the extent of that superiority is enough to offset the inferiorities in each of the other three conflict types, or in whichever of those types the encounter happens to involve. That is, a sufficiently superior movement vs. fire capability may permit an attacker to offset inferiorities in all the other conflict types and still secure his objective.

Another way to view this same concept is to say that any encounter between military forces may be separated into four components. These four components are the four types of conflict displayed in Chart 1. In a sense these four types of conflict may be viewed as four different ways to generate combat power. Then, the outcome of the total encounter--who wins the battle and how hard fought it is--depends on who generates the most combat power at the decisive

point and time. To find out who generates the most combat power, one must consider each of the four types of conflict which is in fact present in the encounter. The winner is the side which on balance generates the most combat power. That may or may not be the side which generates the most combat power in each type of conflict; one side may generate so much in type I that it is able to overwhelm the side which generates the most combat power in types II, III, and IV. The types or kinds of combat power generated in the four types of conflict are not, of course, perfect substitutes for one another. Further, there are no units in which to measure combat power. For both these reasons the determination of overall combat power superiority is not a simple process of adding plusses and minuses in the four types of conflict. Some hard judgments about the relative importance of various superiorities in each of the conflict types are still going to be necessary to apply this classification usefully.

The analytical framework established by this classification of any armed military encounter into four types of conflict has real advantages. The classification is at once simple and completely general. It can be used to analyze the influence on combat power of any particular element of the military environment by first specifying the balance which existed before a given change, then tracing the impact of that change on each of the four kinds of conflict. The benefit of this over other methods is twofold. First, one can look at part of the problem at a time, thereby avoiding possible confusion. Second, one can be sure that this analysis covers all the possible influences and that no major considerations are being overlooked. Both advantages

are important; the second is probably more important than the first, for there are other ways to fragment a problem.

To employ the framework in an analysis of night attacks requires only the assignment of the attacking role of friendly forces and the defending role to enemy forces. Then, the relevant questions are those about the influence of night on relative combat power in the four forms of conflict.

This approach has the very real advantage of focusing on the impact of night on the relative combat power of the opposing military forces. This, after all, is the important question. There is no doubt about the division's ability to attack at night. Just as men have always been able to perform individual tasks in darkness, so any military organization can engage at night in any military operation of which it is otherwise capable. The question of whether or not the division can attack at night is a trivial one; of course it can. The relevant question is how well it can do so at night compared to what it can do in the daytime. Answers to this question can provide useful guidance on whether to attack at night and on how to attack at night if the decision to do so is made on other grounds.

In terms of the four conflict classifications of Chart 1, the aim of the analysis is not to say what the overall balance of forces, or even the balance in each type of conflict, is going to be at night. Rather, the aim is to see how nightfall is likely to change the balance of forces which existed in daylight.

These distinctions between absolute and relative combat power and between relative combat power at night and changes in relative combat power from day to night are more than nice analytical

distinctions. A division may have enough absolute combat power to accomplish its mission, day or night. If so, it by definition has superior relative combat power. In this case analyses limited to comparisons of friendly and enemy combat power would yield the same results for either day or night and would offer no useful guidance on whether to attack at day or night. But, if an analysis of relative combat power shows a sharp drop at night, the division would be better served to accomplish its mission during daylight. Not only would it then have an absolute superiority of combat power, but also it would have the biggest possible absolute superiority. It is reasonable to expect--in fact, it is almost a definition of combat power--that in this case the division could accomplish its mission in daylight with less of its total resources than would be required at night. This usually means with fewer casualties, since human lives are normally considered much dearer than other divisional resources.

There is a very real limitation to an analysis which treats only changes in relative combat power. The important question to the commander on the spot may not be a comparison between various states of relative combat power. Rather, the commander may be concerned only with the balances of total combat power at the time and place when he must employ it. That is to say, no matter what the results of the kind of analysis developed here, the division commander will many times decide for other overriding reasons to attack at night. Consequently, results of this analysis will be limited for the most part to those situations in which the division can accomplish its mission by attacking either at night or during daylight.

Nonetheless, an analysis of the kind presented here can help a commander decide how to conduct an attack by highlighting those types of conflict wherein relative combat power is likely to shift against him at night. He can then take such measures as may be available to him to offset or minimize the effects of these areas.

Consider, now, two military forces opposing each other on a battlefield. One is an attacker, the other a defender. The composition of their forces, their equipment, the terrain and weather, and a host of other considerations give them in daylight a certain balance of forces, or relative combat power, in each of the four types of conflict.

There are three possible states this balance can assume in daylight. The attacker may be able to amass superior combat power, there may be an equality of combat power tending to produce a stalemate, or the defender may command superior combat power. This overall relationship of combat power is the resultant of the net outcome of the balance of combat power in each of the four types of conflict depicted in Chart 1. That is to say, the attacker may be superior overall in combat power but still inferior in one or more specific types of conflict.

This overall combat power relationship can be broken down further, then, into a series of permutations and combinations of circumstances in each of the four areas of conflict. Thus, the attacker's overall superiority of combat power may result from a superiority in types I, II, III, and IV; from a superiority in types I, II, and III outweighing an inferiority in type IV; from a superiority in types I and II overshadowing an inferiority in types III and IV; or from a significant edge in type I more than compensating for deficiencies in types II, III,

and IV. Analogous possibilities exist with other combinations of types of conflict. Thus, types I and II may represent the only types of conflict involved in an encounter. If so, the attacker may be superior in type I only, superior in type II only, or superior in both. In all, with four types of conflict, there are 15 different ways for the attacker to be superior in daylight combat power.¹

Of course, attacker superiority is only one of three possible overall starting points. The attacker and defender may be equal in combat power in daylight. As before, there are 15 separate ways this could happen. Similarly, there are 15 combinations of combat power among the four types of conflict which will produce overall defender superiority in daylight.

Thus, there are in all 45 possible combinations of daylight combat power which may exist: 15 each for attacker superiority, equality, and defender superiority.

Each of these 45 possible combinations of circumstances represents a relative combat power relationship between the defender and the attacker. These are measurements of relative combat power, technically called first order differences in combat power. A first order difference is simply a difference between two absolute magnitudes. Thus, the attacker has a certain amount of absolute combat power in certain forms, the defender has a certain amount of absolute combat power in certain forms, and the first order difference between these two is called relative combat power. To say that the attacker has superior combat power says his relative combat power is positive.

¹Four things may be combined one, two, three, or four at a time in $1 + 4 + 6 + 4 = 15$ separate ways.

or greater than zero. Equality of combat power between attacker and defender means no difference in combat power, or a relative combat power of zero for the attacker. Finally, if the defender is superior in overall combat power, the attacker has a negative relative combat power.

Though phrased in what may be a slightly different manner, these concepts are the normal ones which military personnel work with every day. Again, the nature of the measurement is a first order difference in combat power. Essentially, attacker's absolute combat power minus defender's absolute combat power gives attacker's relative combat power (ARCP). Measuring this relative combat power from the attacker's standpoint is simply a convenience, of course. Measuring defender's relative combat power would get the same results with plus signs and minus signs interchanged.

The attacker's relative combat power (ARCP) is measured in each of the four types of conflict displayed in Chart 1. As outlined above, this ARCP can be positive (attacker superior in combat power), zero (attacker and defender equal in combat power), or negative (attacker inferior to defender in combat power) in one or more of the four types of conflict, giving rise to 45 possible daytime combinations of combat power.

Then, the influence of nightfall on the outcome of the total encounter--who wins the battle or how hard the battle is--depends on how nightfall changes relative combat power in each of these 45 possible conditions.

Note especially here that the concept is one of a change in relative combat power. The measurement sought here is one of second

order differences, or differences between differences. That is to say, the attacker's relative combat power (ARCP) in daylight was the first order difference between two absolute magnitudes. Now, the question is one of what happens at night to ARCP? Specifically, is ARCP at night bigger, the same, or less than ARCP in daylight? ARCP at night minus ARCP in daylight yields CNARCP, the change caused by night in the attacker's relative combat power. Then if CNARCP is positive, night has increased ARCP; if CNARCP is zero, night has not changed ARCP at all; and if CNARCP is negative, night has decreased ARCP.

As outlined above, there are three possible values of ARCP (attacker's relative combat power) in daylight: positive, zero, and negative. Then, nightfall can change this ARCP by causing a positive, zero, or negative CNARCP in any one of 45 possible ways.

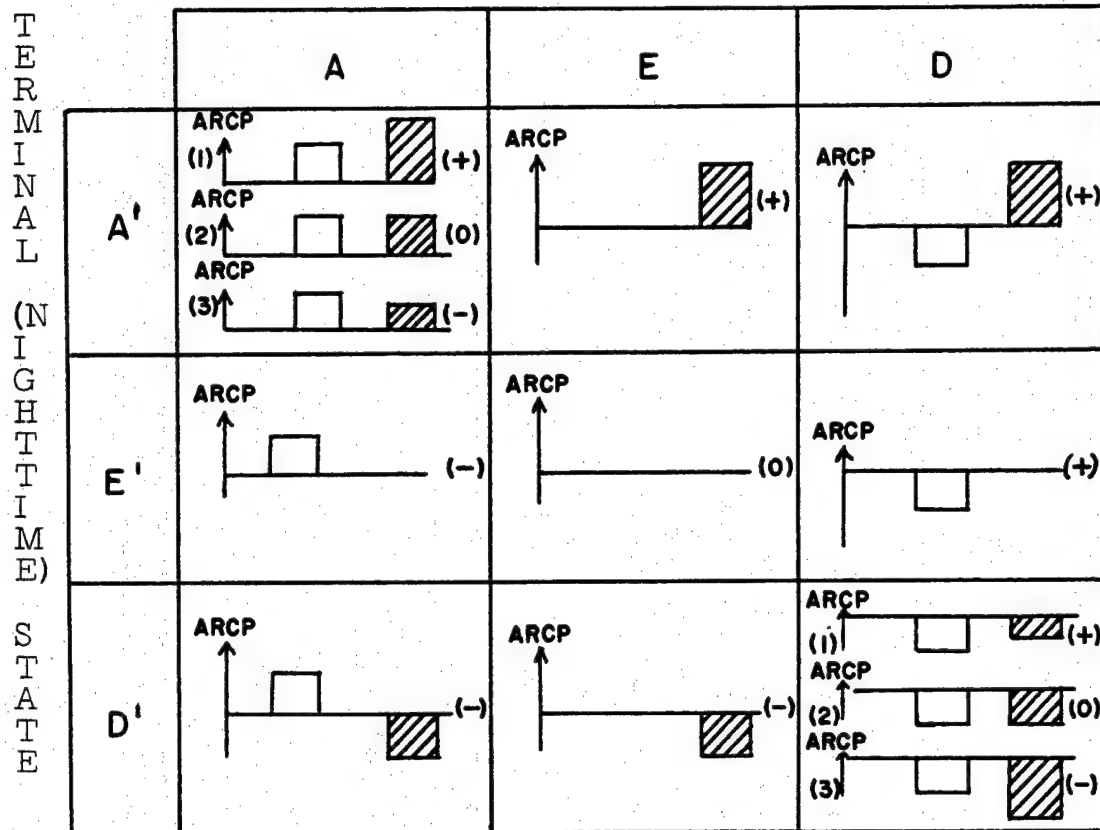
The analysis is not hopelessly complicated by this condition, however. The principal utility of the classification of a total military encounter into four types of conflict is that it provides a workable level at which to conduct the analysis of what night does to the attacker's relative combat power.

In each type of conflict, I through IV, there are three possible values of ARCP in daytime: positive, zero, and negative. These three possible daylight starting points are represented by the three columns of Chart 2. Thus, all the possibilities in column A (attacker superior in day) are those associated with a positive ARCP. This condition is shown by the plain rectangle representing the daylight conditions on the ARCP scale. In each case in column A this rectangle shows a positive daylight ARCP, signifying attacker daylight superiority in combat power.

CHART 2

POSSIBLE INFLUENCES OF DARKNESS ON AN
ATTACKER'S RELATIVE COMBAT POWER (ARCP)

INITIAL (DAYTIME) STATE



LEGEND: A, A' = Attacker has superior combat power.
E, E' = Equality of combat power between attacker and defender.
D, D' = Defender has superior combat power.

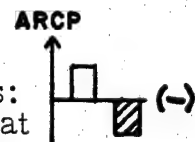
ARCP
0
↑
↓
Scale of Attacker's relative combat power.



Attacker's relative combat power in daylight.



Attacker's relative combat power at night. Thus: means that attacker is superior in daylight combat power, inferior in night combat power compared to defender. The (-) indicates that CNARCP is negative.



In column E (equality of combat power) the daylight ARCP is zero in each case, signifying that attacker and defender are equal in daylight combat power. Finally, in column D (defender superior) the white rectangle for ARCP is measured in a negative direction on the ARCP axis, because a negative ARCP means a defender superiority of combat power.

The same three states of attacker superiority, attacker vs. defender equality, or attacker inferiority can exist at night. In Chart 2 these three states are represented by rows A', E', and D' respectively. Similarly, the cross-hatched areas represent ARCP at night in the same manner as the white rectangles represent ARCP in daylight. Thus, the cross-hatched area is above the zero axis in each case in row A' because row A' includes all cases in which ARCP at night is positive (all cases where the attacker is superior at night to the defender). Similarly, in row E' the cross-hatched areas are zero, and in row D' the cross-hatched areas show a negative night ARCP.

Thus, Chart 2 encompasses, for a given type of conflict (type I, type II, type III, or type IV), all the possible effects of night on ARCP. That is, cell AA' on Chart 2 represents the case where ARCP was positive in daylight and remained positive at night. Cell DD' represents the case where ARCP was negative in daylight and negative at night. Cell EA' is the case where there was a standoff in daylight but the attacker was superior at night. Cell AD' is the case where the attacker was superior in combat power in the daytime and the defender was superior at night, etc.

By looking at the cell concerned, one can, except for cells AA' and DD', tell immediately what the direction of CNARCP has been.

For example, in cell AD' the CNARCP has obviously been negative; an attacker daytime superiority has been changed to a nighttime defender superiority. Similarly, in cell DE' the defender has lost a superiority he had in daylight, so CNARCP has been positive.

Cells AA' and DD' call for some further elaboration. Here, the size of the superiority could have changed without changing the direction of the superiority. Thus, in case AA'(1), not only does the attacker still have night superiority (row A'), but that superiority is larger at night than it was in daylight; CNARCP has been positive. In case AA'(2), CNARCP has been zero, and the night and day ARCP's are equal. Finally, in case AA'(3) where ARCP at night is still positive but less than ARCP in daylight, CNARCP has clearly been negative. That is to say, when CNARCP is positive, night enhances the attacker's relative combat power; when CNARCP is zero, the attacker's relative combat power at night is unchanged from what it was in daylight; and when CNARCP is negative, night decreases the attacker's relative combat power.

Similar refinement is required in cell DD' for the same reasons. In case DD'(1), CNARCP has been positive; in case DD'(2), CNARCP has been zero; and in case DD'(3), CNARCP has been negative.

Chart 2 then represents schematically² every possible effect of night on an attacker's relative combat power.

²Note that the ARCP axis has no scale on it, since there are no units in which to measure combat power. Therefore, the size or height of the rectangles on Chart 2 is not important. The relationship between the rectangles in each case, and how they change from day to night, is the relevant information.

So what? Of what utility to a commander is Chart 2 or the analysis it depicts? There are two uses to which this analysis can be put. The first is the case in which the division can accomplish its mission by attacking either in daylight or in darkness. Here, the analysis of what darkness does to relative combat power will help the commander decide when to attack, and will insure that the commander considers all the relevant possibilities in arriving at this decision.

The second category in which the analysis can be of real benefit to the commander is when the division is, for one reason or another, going to attack at night, regardless of the effect of night on ARCP. Here the analysis can point out possible shifts in relative combat power, highlight disadvantages which require corrective action, and point up advantages on which the division can capitalize.

Note especially on Chart 2 the symmetrical nature of the possible influences (indicated by the (+), (0) or (-) signs beside each figure) on the attackers relative combat power. There are 13 possible values for this quantity, which is CNARCP. But, if the attacker starts with a daytime superiority (column A) only one case (AA'(1)) increases that superiority at night. When equality of combat power exists in daytime (column E) the possible directions of the influences of night are evenly distributed. But, if the defender has a daytime superiority (column D), three of the five possible effects operate to the advantage of the attacker, and only one possible effect (DD'(3)) to the attacker's net disadvantage.

Nothing in this analysis says anything about the magnitude of these nighttime shifts, of course, and without such information the

net influence of night is not determinant. Still, on the basis of possibilities alone it would seem that night might be a powerful equalizer. Night may be unlikely to favor an attacker who has been successful in amassing a daytime superiority of combat power. On the other hand, night may well work to the distinct advantage of an attacker facing a superior daytime defender.

It may be well to review briefly the exact nature of the comparisons made in Chart 2 before resuming the main thread of the analysis. In all but some trivial exceptions³ any military task is going to be harder to do at night than in daylight. Thus, the night capabilities of both attacker and defender will be less absolutely than the day capabilities in each of the four types of conflict. The direction of the influence of night on absolute combat power is unambiguous. The problem is that the relative magnitude (or percentage, so to speak) of the changes cannot be expected to be the same for each combatant in each of the four types of conflict. Therefore, it is necessary to examine what happens to relative combat power from day to night if one seeks night attack doctrine. This is what Chart 2 displays: the possible changes caused by night on the attacker's relative combat power. In other words, Chart 2 shows 13 possible ways the attacker's combat power relationship to the defender can change as daylight changes to dark, or 13 possible cases of CNARCP.

Chart 2 is applicable separately to each of the four types of conflict. In addition, it can be used to examine the total influence of

³Like marching across the desert on foot.

night on relative combat power. This total influence is the resultant of the values of CNARCP in all four types of conflict.

The advantage of such an approach is that it highlights specific favorable and unfavorable considerations which arise as day changes to night. The commander can then direct his attention to those measures, within the division's capability, best suited to exploit areas of advantage and to guard against or offset actual or potential disadvantages. The analytical process here outlined insures comprehensive treatment of relevant considerations.

Of course, the framework itself can no more guarantee good results than can any other guide to organizing one's thoughts. There is no substitute for the considered judgment of the man who has the responsibility for a decision. The analysis developed here should help focus that judgment on the relevant considerations of night combat. If it does so, the analysis can help produce better decisions. Good, orderly judgment is likely to be better than equally good but less orderly judgment.

With these qualifications in mind, consider now the likely influences of night on the attacker's relative combat power in each of the four fundamental types of conflict.

Consider first the type I conflict, attacking movement vs. enemy fires. The decreased visibility of night makes it harder for the defender to detect the attacker's movements and to place effective fire on them if detected. The initiative inherent in the attack is of particular benefit to the attacker here. He can select times and routes of his movement, coordinate that movement with his own fires, and

reconnoiter his routes before starting to move. He can generally choose the time and place, and to some extent the manner of the attack. Of course, the attacker can do all these things in daytime, too. But at night the defender is much less able to discover when, where, and in what manner these things are being done and interfere with them by fire. Hence an advantage to the attacker (CNARCP positive) will be normal although by no means certain in this regard.

One reason a positive CNARCP is by no means certain is that night is not an unmixed blessing to the attacker, even in the movement vs. defending fires type of conflict. Movement, too, is harder at night than in daytime. A given movement is slower and usually requires more energy at night than in daylight. Most importantly, effective control of movement is much harder at night than in daylight. Even though closer formations may be used at night, the reduction in visibility is usually much more extensive than a reduction in the distances involved in the exercise of control. When this is so, use of closed formations cannot overcome all the physical difficulties of harder night control problems.

There are other difficulties in moving at night. The increased importance at night of psychological influences compounds the total control problem. Not only is control physically harder to exercise at night but also the total amount of control required may rise at night because adverse psychological influences must be overcome. Finally, there are some shirkers in most military units, particularly when lead starts to fly. At night shirking, straggling, getting lost, and "mis-understanding" orders to move are easier for the same reasons that

control is harder--which is just another way of saying that control is harder at night.

The adverse influence of the control factor on movement obviously works to the net disadvantage of the attacker in the movement vs. fire conflict, because in this particular form of conflict the defender is doing no moving.⁴ To be sure, the defender has harder control problems at night than in daytime in the delivery of his fires. The inability to see well enough to control his fires is the chief factor making those fires so much less effective at night than they are in daylight.

The two main influences of darkness on this form of conflict operate on the attacker's relative combat power in opposite directions. Darkness makes defending fires less effective, thereby tending to make CNARCP positive. But that same darkness increases the requirements for control of that movement while making harder the effective exercise of that control thereby tending to make CNARCP negative. Whether darkness works on balance to the advantage of the attacker or defender will depend on the relative size of these two effects. The state of training of the attacking units and their ability to use the available techniques for controlling night movements will weigh heavily on which way combat power shifts at night in this type conflict. No general statements are possible about the net direction of these opposing influences; each situation must be evaluated in its own context.

⁴Night control problems will plague the defender, too, in any night movements. However, since movement is less important to the defender than to the attacker and since the defender has so many better opportunities to minimize control difficulties, this effect is likely to be secondary in interfering with defensive movements. See discussion below of conflict types II and III.

The type II movement vs. movement conflict may play a relatively small role in the total encounter in many conventional operations. In technical parlance a "defending" enemy is one who has the mission of denying the attacker access to his (the attacker's) objective. Hence, the defender will be doing less moving than will the attacker in all but exceptional circumstances.

Should the "defender" be in fact delaying or withdrawing, however, the movement vs. movement conflict assumes increasing importance. In the pursuit the outcome of this form of conflict may prove decisive as the attacker tries by movement to encircle or cut off the retreat of the enemy. Also, type II conflict may comprise a major part of unconventional warfare operations where patrols seek out, attack, and pursue small guerrilla bands.

In almost every case of a type II conflict the defender (delayer, withdrawer, guerrilla, etc.) is more familiar with the terrain over which the movement is made than is the attacker. Consequently, the hinderances of darkness should interfere less with defensive movement than with attacking movement. The almost universal doctrine of using night to make a withdrawal reflects these considerations, as well as the conclusions that night interferes with the attacker's fires more than it does with the defender's movement.⁵

Insofar as the attacking movement vs. defending movement conflict is concerned, then, night usually alters the balance of relative combat power in favor of the defender. Special circumstances could, of course, produce an opposite shift or no shift at all. Again, refer to Chart 2 for the possibilities; this discussion focuses on probabilities.

⁵See discussion of conflict type III.

Consider next the type III conflict of attacking fire vs. defending movement. The attacker's fire capability will be reduced from day to night for the same reasons developed in the discussion of conflict type I, principally reduced observation. Thus, the attacker will be less able at night than in daylight to detect and place effective fire on defensive movements; this tends to create a negative CNARCP.

The defender will be able to move less well at night than in daytime because night makes control harder and slows most methods of traversing terrain, tending toward a positive CNARCP. But the defender is generally more familiar with the terrain than the attacker. Moreover, a defender can have some movements planned ahead of time, guides briefed and rehearsed, navigational aids (engineer tape, luminous signs, etc.) placed throughout his position, and other measures taken to reduce the difficulties of night movement. Night will still decrease the defender's capability to move no matter how extensive these offsetting measures. However, night is likely to decrease considerably more the attacker's capability to detect and place accurate fire on that movement.

Again, the probable effect on relative combat power is a negative CNARCP which creates a shift in favor of the defender from day to night. This effect is expected because darkness degrades both the capabilities of friendly fire and enemy movement, but to different extents, and the degradations in friendly fire capability are likely to be greater than those in enemy movement capability. Again, these estimates are made with full knowledge that many circumstances can cause other results.

As regards the attacker's fires vs. the defender's fires (conflict type IV), each side's weapons will be harder to locate at night and harder to bring effective fire on once located. The attacker has some advantage by having the initiative. He can select the time to commence firing; but, he has no assurance that the defender will cooperate by disclosing his weapons locations in time to have them destroyed before they can retaliate against attacking fires. Both sides will make use of information secured during daylight. Here the attacker has an advantage of knowing which of the defender's weapons are the most important targets in the plan of the attack. Both this and the preceding advantage accrue to daylight attackers, though; they are not advantages of attacking at night.

The direction of the CNARCP in this form of conflict is not at all certain. It will depend in large measure on the extent to which the opposing forces rely on firepower as a part of total combat power. The technical capabilities of the two forces will be important, too.

Consider, for example, two forces of equal technical capability and having the same ratio of firepower to maneuver units. In this case darkness probably favors the defender in the fire vs. fire conflict. This result arises more from the nature of missions and the tasks they imply than from any purely technical considerations. Almost all the attacker's fires will be aimed at the defender's fire capability, so the reduced capability of night will impinge on virtually all attacking fires, reducing their effectiveness below what it was in daytime. The defender, on the other hand, will probably reserve a large part of his total fire capability for use against the attacker's

movement,⁶ if and when he can detect it. Hence, the degraded capability of night will apply to only a portion of the defender's fires in this type IV conflict. The net result is likely to be in most cases a negative CNARCP in the type IV conflict. Again, other results are possible, depending on the particular circumstances. Also, there is no conclusion here about which combatant has the greater total capability at night. The conclusion here is simply that as day changes to night the daytime balance of forces in the fire vs. fire conflict can be expected usually to shift in the defender's favor. As with the other types of conflict, the possible forms this shift could take are indicated on Chart 2.

This analysis of the four types of conflict is clearly incomplete in that it does not treat the full range of conditions and circumstances that are possible. To do so would require discussion of 52 separate possible values of CNARCP--the 13 possibilities of Chart 2 for each of the four types of conflict--and the conditions which would produce each. Such a treatment is clearly impractical. This analysis has treated some of the most likely effects of moving from day to night to illustrate the nature of the application to concrete situations. The aim here is not to cover all possible circumstances. Rather, the aim is to develop an analytical framework which can encompass any set of circumstances fed into it.

To this point the analysis has been conducted in terms of single types of conflict. An estimate of the net influence of night on the overall relative combat power of the attacker requires an integration

⁶These fires will be less effective than in daylight, too; but that is the type I conflict treated above. See here the advantage of treating one conflict at a time. Trying to treat the total encounter in one discussion is likely to cause one to meet himself coming around the other way.

of the effects found in each of the four types of conflict. There is, of course, no formula for such an integration. The commander's judgment will be required to make each of the evaluations discussed so far; similarly, only the commander's judgment can make the final evaluation about the net result of the interplay of forces which are at work in each type of conflict. Still, some general guidelines can be developed, and the framework of this analysis offers the commander a logical, orderly, and comprehensive system for considering all the factors in night's influence on his relative combat power.

For example, consider a modern, well trained, well equipped, and well led U.S. division engaged in active operations against a guerrilla force. The guerrillas of necessity depend much more on movement than on fire to accomplish their mission, simply because they have a very limited fire capability. The U.S. division, on the other hand, has a massive fire superiority over the guerrilla force. However, the U.S. division may have to struggle to match the guerrilla's movement capability, especially on the level of local encounters between small elements. Say that the terrain is mountainous jungle which limits severely the effective employment of mechanical mobility means.

In such a situation, what influence will night have on the relative combat power of the two forces? Specifically, will night attacks normally be to the division's advantage or not?

Consider the four forms of conflict in turn. Conflict type I, division movement against guerrilla fires, presents no particular problem in daylight because of the guerrilla's limited fire capability. But the problems of control involved in moving at night through jungle

terrain are likely to be formidable for the division. Thus, night probably works to the disadvantage of the division here, even though it will be harder at night than in daytime for guerrillas to use fire--except from ambush, which is their specialty. On balance, CNARCP should be clearly negative.

In the type II conflict, movement vs. movement, the division is likely to be at a substantial disadvantage over the guerrilla at night compared to day because of the greater familiarity of the guerrilla with the terrain. Moreover, the state of training of the U.S. division must be evaluated realistically when it comes to a question of sending division elements into the jungle at night to maneuver against guerrillas. It would seem that the guerrilla probably realizes a substantial advantage from night in this regard; again, this is to say that CNARCP is negative here. This effect is likely to be especially important because this type II conflict will make up a very large part of any counter guerrilla operation.

Division fires against guerrilla movement will decrease sharply in effectiveness at night because of target acquisition problems. This, of course, is a major reason the guerrilla usually chooses to operate at night. Here night works substantially to the division's disadvantage by degrading the very capability in which it has the most pronounced superiority over the guerrilla; CNARCP is large and negative.

Division fires against guerrilla fires will play a minimal part in the total operation simply because guerrilla fires do not usually amount to much. Although night will work against the division here, too, --simply because the division has so much more fire capability to

be degraded--the effect will not be too important. This, in all likelihood, will be the least important or least extensive type of conflict in the entire encounter. Even though CNARCP will be negative, its importance will be minimal.

On balance, the analysis yields the not too surprising results that under the circumstances in this example night attacks are likely to be a very poor way for the U. S. division to do business. Attacking at night throws away most of the advantages the division has over the guerrilla force and plays into guerrilla strengths. The division may succeed, but the cost of doing so is likely to be much higher at night than in daytime when the division can exploit its strong points (especially superior firepower) against guerrilla weaknesses.

What happens in this example is that in each form of conflict night performs its role as an equalizer. The U. S. division has a substantial superiority of combat power in each type of conflict except possibly type II. But, because night makes it harder to apply most forms of combat power, the force with the least combat power usually fares better at night than in daylight. Moreover, in the type II conflict likely to be most important in a counterguerrilla operation, night clearly works to the division's disadvantage.

Consider another example which places this same U. S. division in another military environment. This time the terrain is bare, rocky, and mountainous. Avenues of approach are severely restricted to a few mountain roads and trails; valleys are wide open to observation from the heights. Assume that the division faces a numerically equal force, part of a modern army, and the equal of the U. S.

division in firepower and mechanical mobility means. Under these conditions what is night likely to do to relative combat power?

Again the approach is to take the types of conflict one at a time and trace the probable influence of darkness on relative combat power in each, then integrate the results into an estimate of the total influence.

In the attacking movement vs. defending fire (type I conflict) a completely different situation obtains than that in the jungle anti-guerrilla environment. Now the defender's chief means of denying the attacker access to his position is defensive fires; the attacker finds the major obstacle to the accomplishment of his mission in those same fires. Thus, to the extent that darkness permits the attacker to avoid those fires by crossing open ground under the concealment of night, CNARCP is positive and relative combat power shifts sharply in the attacker's favor at night. The open terrain minimizes control problems, throwing most of the advantages the attacker's way.

The opposite direction of shift is still to be expected in the type II, or movement vs. movement, conflict. The attacker is generally less familiar with the terrain and has to do more movement than the defender. Hence, darkness will interfere more with the attack than with the defense, shifting relative combat power in favor of the defender, and implying a negative CNARCP.

Attacker fire vs. defender movements will clearly be much less effective at night than in daytime. At the same time, defender movements will be hampered to some extent. Still, night decreases the target acquisition capability of the attacker, while the initiative in selecting from among available routes the ones to be used for movement

is in the hands of the defender. On balance, the shift of relative combat power in this type of conflict is likely to be in favor of the defender; again, CNARCP will usually be negative.

Consider finally the fire vs. fire conflict, type IV. Accurate adjustment of indirect fire is difficult in mountainous terrain. The attacker especially is often shooting at targets on the crest of a ridge or hill where small range changes produce large movements of the round on the ground. Also, when enemy weapons are concealed behind sharp ridges, flat or shallow trajectory weapons reach them only with difficulty. These difficulties are likely to be compounded seriously for both forces at night; so much so that the net effect of night on the fire vs. fire conflict will be ambiguous. Since the attacker has the job of gaining fire superiority, though, night is likely to work to the net advantage of the defender in this type of conflict. Moreover, to the extent that avenues of approach are restricted, the defender can plan fires on these avenues and call for them as required with little loss in accuracy. Which way the net effect of CNARCP goes will depend to a large degree on how effective daytime fire planning has been and how aggressively fires are employed on known, suspected, and newly discovered enemy fire means.

Consider now the total effect on the attacker's combat power. In many cases the positive CNARCP in the type I conflict will more than offset negative CNARCP's in the other three types of conflict. When this happens, night moves relative combat power in favor of the attacker, and night attacks promise to be fruitful operations.

Again, there is no allegation here that the advantages of night in this example are "free" in any sense. Quite the contrary; the

majority of the influences of night usually work to the disadvantage of the attacker. Still, one favorable consideration may often outweigh the other unfavorable ones to give the attacking U. S. division a better overall relative combat power position at night than it had in daylight.

Maybe the results in these two examples were obvious at the outset. Many real cases will be less clear cut, however; and the analysis used here has the advantage of making sure that all the relevant considerations are treated in arriving at the estimate of night's effects on relative combat power. One should have more confidence in an estimate which has considered negative CNARCP's and decided they are not decisive than in an estimate which focus only or principally on positive CNARCP's. Moreover, comprehensive treatment of all effects points up disadvantages of attacking at night so that measures may be taken to overcome such disadvantages or minimize their influence on the attack. For this reason the analysis is useful even when the decision to make a night attack has been made for other reasons than the movement of relative combat power at night. Thus, even when the division is ordered to attack at night, this analysis can help the commander and his staff decide how to attack.

Other examples could be spelled out. The two developed here illustrate the way the analysis can be used to develop useful estimates of what night does to the attacker's relative combat power in particular sets of circumstances.⁷

The next two chapters present examples of night attack experience to test the analysis.

⁷The same approach used here could be applied to any element in the calculation and evaluation of combat power.

CHAPTER IV

THE HISTORY OF NIGHT ATTACKS PRIOR TO WORLD WAR II

The history of night attacks separates neatly into two periods. The first extends to the start of the Russo-Japanese War in Manchuria and the Boer War in South Africa at the beginning of this century. The second period begins there and continues to the present. This chapter will treat all of the first period and so much of the second as precedes World War II. The next chapter will treat World War II and Korean experience in greater detail because the organizations and equipment used in those wars were close enough to those of the current division to provide particularly relevant experience.

The place of night attacks in military history before the Boer War is characterized by two main elements, both striking in the regularity with which they occurred throughout the period. First, night attacks have always been present from the dawn of recorded history. Secondly, night attacks have been without exception of minor importance. One could almost formulate a "principle of night warfare" based on the experience of the period. It would go something like this: "Night operations will always be present, but will never amount to much."

A distinguishing characteristic of almost all combat during this first period was the central importance which movement played in

securing a decision. For a large part of the period fires in any significant sense were unknown. Combat was a hand-to-hand, "push-of-the-pike" affair. Victory was secured by getting an advantageous position relative to the enemy force and by physically overrunning that force.

With movement virtually dominating the spectrum of conflict, type II conflict made up almost the entire encounter. The analysis of Chapter III disclosed that in most cases night would work to the attacker's net disadvantage in this type of conflict. Hence, the reason most attackers of this period chose to operate in the daytime becomes clear.

For example, Alexander the Great's genius was in large measure a result of his ability to use movement skillfully. Time and time again he defeated a numerically superior force by movements which gave him a decisive advantage. The classic battles of the Granicus, Issus, Arbela, and the Hydaspes all demonstrate the central importance of movement as a means of securing superior combat power at the decisive point and time.¹

Moreover, the analysis of Chapter III disclosed that the reason an attacker was likely to lose relative combat power at night in a type II conflict was the increased difficulty of control.

The central importance of the element of control to the success of an attack is illustrated by what is perhaps the first recorded example

¹J. F. C. Fuller, The Generalship of Alexander the Great (New Brunswick: Rutgers University Press, 1960), pp. 147-99 contains the best of many descriptions of Alexander's battles, for General Fuller treats specifically the question of how Alexander achieved such successes against great numerical superiority in each case.

of a night attack involving forces of significant size. This attack occurred during the Peloponnesian Wars between the Greek city-states Athens and Sparta in the fifth century B. C.

An Athenian General, Demosthenes, in 431 B. C. invested the city of Syracuse, an ally of Sparta. Conventional assaults and attempts to breach the defender's walls failed, primarily because the defenders held commanding terrain on the heights of Epipolae. One narrow trail provided the only access route. Because it was impossible to approach the defenses undetected in the daylight, Demosthenes elected to make a night attack to seize the key terrain of the heights.

Just after nightfall the entire Athenian army began its march along the narrow trail leading from the valley up to the heights. The Syracusans had posted only light security detachments at a small fort commanding the trail. The advancing Athenians overwhelmed these detachments and seized the fort, but some of the Syracusan guards escaped back up the trail. They spread the alarm in the three main camps of the Syracusans and their allies on Epipolae.

A Syracusan alert force immediately engaged the advancing Athenians, but was unable to contain their advance. The initial encounter did, however, generate some confusion among the Athenian attackers and gave the defenders, moving over familiar ground, time to deploy more forces from the alerted camps. Finally, one of these detachments was able to mount a counterattack which, although limited in extent, succeeded in repulsing a section of the advancing Athenian forces.²

²Thucydides, The Peloponnesian Wars, translated by Benjamin Jowett, revised and abridged with an Introduction by P. A. Brunt (New York: Washington Square Press, 1963), pp. 276-77.

Here the historian himself, who built his account from contemporary eyewitness reports, found it hard to determine what was really happening.

At this moment the Athenians were in such confusion and perplexity that it was hard even to find out from either side exactly how things went. In daytime combatants see more clearly, though even then only what is going on immediately around them, and that imperfectly--nothing of the battle as a whole. But in a night engagement--this was the only one in which great armies were engaged during this war--how could anyone have known anything clearly.³

Nevertheless, Thucydides goes on to relate the difficulties of the Athenians once their original plans had been upset by the locally successful counterattack. Although most of the attacking army had gained the heights, many of its detachments were still unengaged. Even in the bright moonlight the only effective means of identification was by exchange of a spoken--or shouted, in the din of battle--password, for no provision had been made for visual identification of friendly troops. The constant challenge and response added to the clamor and confusion of battle; worse, it betrayed the password to enemy soldiers, enabling them to escape unharmed even if surrounded by the attackers. The defenders were more familiar with the terrain and less crowded than the attackers, who were bunched closely together by the push of the following troops and the retreat of those who suffered the initial reverse. Hence the defenders kept their formations better and did not divulge their own password as readily as did the attacking Athenians.

To further confuse an already bad situation, the war cry of some of the Athenian's allies resembled that of the defending Syracusans.

³Ibid., p. 277.

Thus, what was meant to be a rallying cry of encouragement and support became instead a source of added terror as Athenian detachments in the confusion imagined themselves attacked from the rear. This led to that greatest of all dangers in night operations, combat between friendly elements. "Thus, in the end, in many parts of the army, where confusions had once begun and friends were colliding with friends and citizens with fellow citizens, they not only inspired each other with alarm but actually came to blows and were parted with difficulty."⁴ Finally, in the rout which ensued, many of the Athenians died in falls from the cliffs bordering the narrow trail. Many more were slain, of course, by pursuing Syracusans. The Syracusan cavalry killed, after daylight the following morning, several stragglers who had been unable to find their way back to their camp.⁵ Soon after this defeat the Athenians retreated from the city without ever taking it.

This debacle portrays vividly some of the hazards of a night attack, especially the difficulties of control. It also shows that these control problems are caused in part by the increased importance of psychological influences at night. The tactical situation was probably one in which, even after loss of initial surprise, the attacking Athenians might have defeated in detail the defending detachments as they arrived on the battlefield. Even after the initial reverse, there were attacking detachments who gained the heights and were not engaged.⁶ Could these have been effectively employed against the defenders, a victory

⁴Ibid., p. 278.

⁵Ibid., pp. 278-79.

⁶Ibid., p. 278.

might have ensued. But night, even though moonlit, prevented exercise of the control necessary to respond to unexpected developments.

This deficiency is one which has been somewhat offset today by the use of electronic communications by military organizations. Still, at any level of command the ability to exercise control is almost certain to decline at night for reasons outlined in the preceding chapter--principally because the information available at night about both friendly and enemy dispositions and actions is so much less in both total amount and in reliability than in daytime. Perhaps company, battalion, and brigade commanders can report what they know as well at night as in daytime. Nonetheless, their own sources of information are less reliable because the people who are reporting to them can see less. The nearer one gets to actual close combat the more pronounced this limitation becomes. Since the entire control process is only as effective as its weakest link, no amount of communications ability alone will preserve the same control capability at night as at day. Any decline in control capability is likely to rebound to the attacker's disadvantage in type II conflict especially.

Present night attack doctrine emphasizes--rightly--the necessity for detailed, simple plans as a means of exercising control.⁷ This is all very well; it does not, however, help much when that plan needs to be changed in response to a change in either actual circumstances or one's knowledge of actual circumstances. Plans must of necessity be based on the commander's conception of the situation at the time the

⁷U. S., Department of the Army, The Division, Field Manual 61-100 (Washington: Department of the Army, 1962 with change No. 1, 1963), p. 121.

plan is made. As the commander's conception of reality changes so should his plans change. To change a plan during a night attack is going to be much harder to do than during a daytime attack and this is going to work to the attacker's disadvantage. Decry this we may at our pleasure; deny it we do at our peril.

The magnitude of the reverses which befell the Athenians when their plans went awry was occasioned in large part by the panic which infested their ranks and the complete loss of control this panic caused. This panic was so widespread and virulent that, it will be recalled, many retreating soldiers fell to their death off the narrow trail in their haste to escape the battlefield. The reasons for the increased susceptibility of troops to the incidence and spread of panic at night were touched on in Chapter III. They have to do principally with the feeling of isolation and lack of sure knowledge of the situation caused by the decreased ability to know what is really happening.

Felt insecurity in any form prepares for panic. An enemy threat, imagined or real, to the flank of a unit or to its communications and supply may be enough. . . . Being separated from the unit in or near enemy territory--even the momentary fear of such separation. Ignorance of the position of the enemy. These are the kinds of things that were never met in their full intensity during maneuvers, which fight against morale and discipline, and lead, when they win out, to panic. [Sic.]⁸

Such forces are almost always present to a greater or less degree in combat. It is easier for them to "win out" at night because the contravening forces--especially positive and forceful control by leaders and the reassurance of seeing others in the same boat--are restricted at night for reasons indicated.

⁸Edwin G. Boring (ed.), Psychology for the Armed Forces, Prepared by a Committee of the National Research Council (Washington: The Infantry Journal Press, 1945), pp. 455-56.

Demosthenes' debacle at Syracuse establishes another pattern for the night attack which is repeated not infrequently in history. This pattern is the initial success gained by surprise, the enemy's reaction which changes the situation, the inability to exercise effective control over the attacking forces to respond to the changed situation, followed by defeat turning often into disaster. Already the picture of a night attack as a very risky operation begins to emerge.

Not long after the Peloponnesian Wars Alexander the Great demonstrated prior to the Battle of Arbela his attitude toward the night attack. Having defeated the Persian King, Darius, at the River Granicus and in a mountain defile at Issus, Alexander again faced a numerically far superior Persian Army near Gaugamela. A night march put Alexander's army within sight of the campfires of the Persians. Alexander conducted a reconnaissance of the terrain between the two armies, returned to his camp, and issued his orders for the battle of the next day. These included emphasis on the strategic importance of the battle--the victor would control all Asia--and instructions designed to facilitate the exercise of control--the troops were to maintain silence so as to hear orders, raising the war cry only at the moment of contact. Alexander then retired to his tent.

In the meanwhile the oldest of his commanders, and chiefly Parmenio, when they beheld all the plain between Niphotes and the Gordyaeon Mountains shining with the lights and fires which were made by the barbarians, and heard the uncertain and confused sounds of voice out of their camp, like the distant roaring of a vast ocean, were so amazed at the thoughts of such a multitude, that after some conference among themselves, they concluded it an enterprise too difficult and too hazardous for them to engage so numerous an enemy in the day, and therefore meeting the king [Alexander] as he came from sacrificing, besought him to attack Darius by night, that the darkness might conceal the danger of the ensuing battle.

To this he gave the celebrated answer, "I will not steal a victory," which though some at the time thought a boyish and inconsiderate speech, as if he played with danger, others, however, regarded as evidence that he confided in his present condition, and acted on a true judgment of the future, not wishing to leave Darius, in case he were worsted, the pretext of trying his fortune again, which he might suppose himself to have, if he could impute his overthrow to the disadvantage of the night, as he did before to the mountains, the narrow passages, and the sea. For while he had such numerous forces and large dominions still remaining, it was not any want of men or arms that could induce him to give up war, but only the loss of all courage and hope upon the conviction of an undeniable and manifest defeat.⁹

Just what Alexander meant by his remark is not clear; he was a consummate politician as well as a Great Captain. Nonetheless, Plutarch's report about Alexander wanting to be sure that Darius had no excuse for a defeat implies that night operations were very much unusual. At the same time, the generals' urgings represent the first recorded instance of professional men urging the night attack as a device to offset the numerical superiority of an enemy. Apparently Alexander's generals had enough confidence in the discipline and fighting qualities of their troops to conclude that they would have a net advantage over the larger but less well trained Persian Army at night. Apparently night attacks were not unheard of; otherwise Parmenio would hardly have proposed such a course of action to Alexander on behalf of several senior generals. Moreover, the role of night as an equalizer is shown clearly in Parmenio's recommendations. In the generals' view, Darius would have superior combat power in daylight and they recommended that the Macedonians attack at night. At any rate, Alexander, for whatever reason, refused to attack at

⁹Plutarch, The Lives of the Noble Grecians and Romans (The Dryden Translation, Chicago: Encyclopaedia Britannica, Inc., 1952), p. 556.

night. Instead, he decisively defeated Darius the next morning, effectively eliminating him as an opponent to Alexander's conquest of Asia. Why he chose not to attack at night will never be known, but his skillful use of movement to win the next day's decisive victory may be a clue. The facts are not inconsistent with the theory that Alexander recognized the central importance of type II conflict--although he probably did not call it that--and the influence of night on his ability to engage in that type of conflict.

Not only did Alexander refuse to engage in a night attack at Arbela; none of Alexander's major battles was fought at night. Each of these battles was won by movements directed after the start of battle and in response to his opponent's actions. The importance of the exercise of control is obvious; this is the way generalship in battle was exercised. Then a general had to be able to observe the battle in order to control it. By the same token his troops--especially the cavalry so important to Alexander's successes--needed daylight to respond to the general's orders in time to influence the battle.

Moreover, the personal leadership of a general in battle was more important to the immediate performance of the whole army than is now the case. Major General J. F. C. Fuller has discussed the importance of this element in ancient battles in describing Alexander's role at the Battle of the Granicus in 334 B. C.

To appreciate correctly the tactics both of the battle and the period, it should be borne in mind that war was still in its heroic phase; much of the decisive fighting took the form of a duel between heroes. Leadership was personal and not delegated: a general-in-chief led his army into battle and did not direct it from the rear; not only was he the moral dynamo of his army, but also its brain--its general staff. That was why it was all-important to kill him, for once he was slain, panic more often than not seized upon his

men and his army disintegrated. To engage him and slay him in single combat not only glorified the victor but was itself a decisive victory; that is why the somewhat common assumption that when a classical historian depicts a duel between opposing protagonists, he does so to gain dramatic effect, or to champion a favorite general, should generally be discounted, for he is usually depicting the decisive incident in the battle.¹⁰

Under these circumstances, it would be surprising indeed to find night attacks comprising anything other than a minor and infrequent part of all offensive operations.

No such surprises are in store. The next military epic in Western history is that of the Roman legion, the formation which for some 500 years maintained the supremacy of infantry on the battlefield. The Roman legion consisted of some 40 separate combat infantry units of four different basic types arranged in three ranks or lines. The ability of the legion to work as a unit was the source of its success; the legion could change formations as required to conform to changes in terrain or to meet enemy action and it could retain its cohesion while moving across rough ground. In all, there were some 4,200 infantry soldiers in a legion. Two legions reinforced by 900 horse of cavalry made up a small self contained army about 10,000 strong.¹¹ The specific formations and means of employing the legion in battle clearly called for the exercise of positive and immediate control of the commander.

At night the legions laid out their camps in a standard formation. Usually they were fortified, and guards were posted. "They

¹⁰Fuller, op. cit., pp. 152-53.

¹¹Flavius R. Vegetius, Military Institutions of the Romans, translated by Lt. John Clark, Brig. Gen. T. R. Phillips (ed.) (Harrisburg, Pa.: Military Service Publishing Company, 1944), pp. 97-106.

thus pass their nights secure from surprise."¹² Here again, the implication, though not the actual statement, is that the Romans went to the trouble of fortifying their camp, laying it out in a standard pattern so each man would know his place in case of alarm, and posting sentries as security measures. These measures would hardly have been taken in the absence of the threat of an attack at night. Still, nothing is said of the employment of the legion in offensive operations at night.

Vegetius does, however, make one reference to tactics which is consistent with the equalizer theory of night. Discussing how to conduct a retreat, he says, "The flying army may return and fall upon the enemy while they are asleep at night."¹³ Again, the reference to an army so inferior in combat power that it has to flee in daytime being able to turn to the attack at night is indicative of a view that night worked to the disadvantage of the force with a daytime superiority. This conclusion also fits the facts that, usually superior in daylight combat power partly because of its superior mobility, the legion chose to spend its nights inside fortified camps instead of on the attack.

Some of Julius Caesar's operations illustrate that the conditions which made for little use of night attacks in Alexander's time--the need to exercise immediate control and personal leadership--were still valid in Roman days. In 52 B. C. Caesar was besieging Alesia, having constructed a ring of fortifications of his own which completely surrounded the besieged city. A relief army, trying for the second time in two days to break the Roman ring, essayed a night attack, but

¹²Ibid., p. 111.

¹³Ibid., p. 108.

the darkness hampered their work of filling in the Roman ditches and reduced the accuracy of their arrows and missiles.

In the dark [the Roman] shields were almost useless. While the enemy's line was at a distance, the assault proved more harmful in loss to the Romans than when the barbarians neared the walls, for then many of them fell into the pits and trenches; this bred confusion and dismay; their aim grew wild, and their weapons inflicted little damage; the Romans, on the other hand, threw down their heavy siege pila [spikes] from the intrenchments with deadly effect.¹⁴

The Romans beat off the attack, and the enemy withdrew at daylight.

Later, the barbarians made an all out effort--in daylight--to relieve the besieged city. The attack was made in conjunction with a desperate sally from the city itself, so that the Romans were under attack from two directions at once. Caesar's handling of this situation illustrates again the fundamental reasons why the Great Captains generally eschewed night operations.

Caesar had prepared several outlooks from which he could get a commanding view of the whole field. In one of these he stationed himself, . . . and dispatched troops from place to place, wherever they seemed to be most needed.¹⁵

At a crucial point in the battle Caesar sent his reserves to a particularly threatened area.

Even this did not turn the tide; he was at last personally obliged to hurry to the point in order to rehabilitate the battle, a matter which he succeeded in accomplishing after some time and with considerable effort.¹⁶

¹⁴Theodore A. Dodge, A History of the Art of War Among the Romans Down to the End of the Roman Empire, With a Detailed Account of the Campaigns of Caius Julius Caesar (2 vols.; New York: Houghton Mifflin Co., 1892), I, 298.

¹⁵Ibid., p. 303.

¹⁶Ibid., p. 304.

Some idea of how Caesar restored the situation is gleaned from a description of what happened when he arrived at the threatened point.

His arrival--which all of the legionaires could see, for he wore the imperator's robe, the purple paludamentum, over his armor--yielded the utmost encouragement to his men. They could always do wonders under the eye of Caesar.¹⁷

These passages clearly illustrate the central importance in ancient battles of movement under the personal control and leadership of the army's commander. As long as these factors were dominant--and the state of technology enabled one to maneuver in sight of but out of effective range of one's enemy--fighting at night was likely to be avoided by attackers. Even in the preceding case the barbarians had first tried attacking by day; they returned to this tactic when the night attack failed. Night attacks still had the same aura as in Alexander's time; they were usually measures of desperation. At least, they were gambles taken in the face of unfavorable odds. This conclusion is borne out, though in a negative way, by the absence of any records of successful night attacks during the period in question.

Another Great Captain of the same era, Hannibal, gave to history the names of two battles which have become virtually proper nouns. Lake Trasimene, in 217 B. C. is a synonym for ambush; and Cannae, in the following year, is a synonym for the battle of annihilation. Both of these were fought in daylight, although Hannibal used the darkness to place troops in ambush positions prior to the battle of Lake Trasimene.¹⁸ As before, the element of movement under the generals

¹⁷Ibid.

¹⁸Lynn Montross, War Through the Ages (3rd ed.; New York: Harper and Brothers, 1960), p. 59.

personal control was too central to the conduct of battle to risk night engagements on a significant scale. The battle of Cannae in particular is probably the outstanding example in history of the use of movement to secure an advantage, while the prevention of enemy movement was what permitted the annihilation of the Romans.

The gradual, at first, then ever faster decline in the fighting ability of the Roman legions after the reign of Julius Caesar is well known. By the fifth century the Goths roamed the Italian peninsula at will, sacking Rome itself in 409 A.D. and withdrawing voluntarily.¹⁹ The day of infantry supremacy was clearly ended by the onslaught of the hordes of barbaric horsemen from central Europe, and cavalry was beginning an ascendancy which was to last for more than a thousand years, until the invention of effective firearms for the individual infantryman.

The major advantage of cavalry lay in its tactical mobility. This gave it the ability to conduct slashing attacks on infantry without itself becoming decisively engaged. Cavalry was obviously well suited to the roles of screening, reconnaissance, and pursuit. Yet, just as obviously, the increased speed and range of movement involved in changing from primarily infantry to primarily cavalry tactics reinforced the already existing requirements for control by leaders at all echelons. As a consequence, night attacks continued to be characterized by their infrequency and insignificance. Of 107 battles described in Oman's exhaustive study, ranging from the Roman defeat by the

¹⁹Charles Oman, A History of the Art of War in the Middle Ages (2d ed., 2 vols.; New York: Burt Franklin, 1924), I, 20-21.

Goths at Adrianople in 378 to the battle of Bicocca (Italy) in 1522 and including military classics such as Poitiers I (732), Hastings (1066), Acre (1189), Bannockburn (1314), Crecy (1346), Agincourt (1415), and the Siege of Constantinople (1453), not a single one was fought entirely at night. Only rarely was tactical movement before the battle made at night. Infrequently a battle begun by day extended into darkness before the action was completely broken off, as at Crecy.²⁰

Still, there were isolated minor night actions. It is reported that the night before the battle of Chalons (450) the Franks had a sharp engagement with one of the tribes in Attila's army "in which fifteen thousand men fell on the two sides."²¹ These casualty estimates are probably high, as are most of those for ancient battles. Even if they are accurate, the point remains that the decisive action took place the next day in a general engagement of the Roman and Hunnish armies; the night combat was an incidental feature.²² Infrequent, unusual, for the most part indecisive, but not unheard of characterize the place of the night attack in the ten to twelve centuries from the fall of Rome to the end of the Middle Ages.

The same description applies to warfare throughout the sixteenth century. For example, at Novara in June, 1513, the Swiss attacked the numerically superior French Army at night, securing clear cut tactical surprise. There was a great deal of confusion and milling about, and several high ranking French officers suffered some

²⁰Ibid., II, 145.

²¹Ibid., I, 21n.

²²Ibid.

loss of dignity in their hurry to get somewhere else fast. Nonetheless, the attack was not pressed, and decisive results were achieved only after daylight and by maneuvers which, although they undoubtedly benefited from the confusion generated among the French by the night attack, can hardly be said to have depended on the results of the night attack for their success.²³

The sixteenth century contained another interesting example of an initial night attack success which degenerated into a failure. At the "Camisade of Boulogne" on October 9, 1544, French forces, after detecting by night reconnaissance that English security procedures were lax, determined to attack the English position in Boulogne. The initial assault was a tremendous success, surprise being virtually complete, and the English troops were driven from the lower part of the town in disorder. But in the darkness and the narrow streets the French captains lost control of their men, who scattered to loot the rich stores of the town. The English rallied in the upper part of the town. An English counterattack inflicted very heavy casualties, finally driving the French off in a complete rout.²⁴

The general moral of the Camisode of Boulogne might perhaps be compared to that of Graham's unhappy attempt to storm the Bergen-op-Zoom in March 1814. In that case, too, the assailants entered the town at several points, seemed for a moment to be completely successful, and then allowed themselves to be driven out by a sudden offensive of the rallied garrison, who were not superior to them in numbers. Want of order and strong leadership was fatal.²⁵

²³Charles Oman, A History of the Art of War in the Sixteenth Century (New York: E. P. Dutton and Co., 1937), pp. 155-58.

²⁴Ibid., pp. 346-48.

²⁵Ibid., p. 348.

The central problems of control and leadership are again evident in both these examples. The influence of night on these factors offers adequate explanation of the aversion of military leaders to night attacks during this stage of history. The hired mercenaries who comprised most armies were hard enough to control in daylight; to try to use them at night was to ask for trouble.

Not all night attacks went awry, of course. At Pavia in 1525 a night attack by the French against part of the Imperial Italian Army contributed markedly to the success of the decisive daylight effort which followed by fixing a part of the enemy's force and deceiving him as to the intent of the attacker.²⁶ Again, however, decisive results were achieved only in a daylight battle; the night attack played a subsidiary though important role.

During the sixteenth century the same pattern continues. Although artillery and individual firearms had undergone considerable development by the time of Gustavus Adolphus, his major contribution to the development of tactics, exemplified at the classic battle of Breitenfeld, had nothing to do with night attacks. In fact, the opposite may be said to hold. Gustavus' chief contribution to tactics was to weld the capabilities of the various arms--artillery, cavalry, pikemen, and musketeers--into mutually supporting units which, because they were mutually supporting, could defeat superior forces of whatever single arm.²⁷ This very mixing of the various arms into small combined arms teams increased the requirement for control and coordina-

²⁶Ibid., pp. 198-203.

²⁷Montross, op. cit., pp. 275-79.

tion, however; in fact, the ability to closely coordinate their actions was the key to their success. Darkness, by making such coordination much harder, would have seriously degraded the very capability which gave these new formations their decisive advantage. In fact, before the first battle of Lutzen in 1632, the German and Austrian Armies stood in ranks facing each other all night, waiting for daylight to commence the engagement. Even so, the day was foggy. The armies grappled all day in a confused welter of isolated combats. Frightful losses on each side failed to secure any decisive results other than the death of Gustavus Adolphus himself.²⁸

Some of the flavor of the battle illustrates the reasons for the natural aversion of military leaders to night attacks or operations where control was hard to exercise. "There was little thought of tactics on either side, for the battle now consisted of combats between small groups contending in the fog and smoke."²⁹

At this stage, however, fire begins to assume a significant role in military conflict. The range, rate of fire, and accuracy of weapons is such that maneuver in the face of an opposing force is still possible. In fact, rapid movement begins to develop as a counter for fire, as troops are urged to close with the enemy before he can reload after discharging his muskets.

During the remainder of the seventeenth century there were no major military tactical developments. The next of the Great Captains, Frederick the Great of Prussia, shared the low esteem of his predecessors for night attacks and the evaluation of night attacks as the

²⁸Ibid., pp. 282-83.

²⁹Ibid., p. 283.

benefactor of the underdog. "In general, I believe that night attacks are only good when you are so weak that you do not dare attack the enemy in daylight."³⁰ Something of why he felt this way comes out in another context when he is instructing his generals on the "hazards and misfortunes of war."

If your orders are misunderstood and some blunder occurs, accidents resulting can be decisive on days of action. I feared such an experience on the day of Friedberg [where an order was misunderstood and a unit began to move in the wrong direction]. Fortunately, I perceived this error and had time to remedy it.³¹

Even when recommending a night attack as one among eight means of gaining surprise, Frederick specified that the attack should be made half an hour before dawn.³² He may well have had the problem of control in mind here, too; attacking at this hour would insure that one's ability to exercise control would increase as the battle progressed.

Frederick was apparently a student of military history as well as a maker of it. In his admonition to his generals about the night attack's role as a device of desperation for a numerically inferior army, he makes reference to the experience of Charles XII of Sweden at Rugen in 1715.³³ Here Charles, with 2,000 men, determined to attack the Prince of Auhalt's 12,000 man army at night. Arriving at the enemy's camp at two A.M., Charles found it entrenched by hastily

³⁰Frederick the Great, Instructions for His Generals, translated by Brig. Gen. T. R. Phillips (Harrisburg, Pa: Military Science Publishing Co., 1944), p. 76.

³¹Ibid., p. 96.

³²Ibid., p. 75.

³³Ibid., p. 76.

constructed field fortifications, but attacked anyway. Again, initial success turned to severe defeat as the defenders overcame the initial surprise achieved by the attackers.³⁴ To the extent that Frederick based his conclusions about night attacks on history, then, his attitude toward them is easily understandable.

Frederick practiced what he preached. At Leuthen in 1757 against the Austrians, at Zorndorf in 1758 against the Russians, and at Kunersdorf in 1759 against both, Frederick eschewed night operations on the battlefield.³⁵

Still, in 1758 Frederick himself was dealt a severe defeat at Hockkirch when his own security measures were lax and he was subjected to a well planned and well executed night attack by the Austrian forces.³⁶ Night attacks were, then, by no means unknown; they were conforming to the general pattern as a secondary tactical implement on the battlefield. The same Austrian tactic tried in 1760 at Leignitz resulted in a severe defeat for the attackers.³⁷ Night attacks were by no means a guarantee of success; laxity on the part of the defender was a necessary precondition.

Napoleon shared the disdain of the other Great Captains for night attacks; his campaigns conformed to the general pattern of the period in that they involved infrequent and indecisive night operations.

³⁴H. G. Eady, Historical Illustrations to Field Service Regulations, "Operations," 1929 (London: Sifton Praid & Co., Ltd., 1930), p. 223.

³⁵Count Alfred von Schliffen, Cannae (Authorized translation, Fort Leavenworth, Kansas: The Command and General Staff School Press, 1931), Maps 4-10 and pp. 5-11, text.

³⁶Ibid.

³⁷Montross, op. cit., pp. 402-03.

For example, Napoleon's Army was attacked at three A. M. on 29 July 1796 by one column of the Austrian Army trying to relieve Mantua.³⁸ But as before, the decisive results were achieved during a series of daylight battles which followed, the final engagement of the series being fought at Castiglione on August 5th.³⁹

Rivoli,⁴⁰ Marengo,⁴¹ Austerlitz,⁴² Jena,⁴³ Eylau,⁴⁴ Friedland,⁴⁵ Borodino,⁴⁶ and Waterloo;⁴⁷ in vain does one search among the major battles of Napoleon for an instance of a significant use of night operations. Night movement of troops was almost routine with Napoleon, but he fought all his major battles in daylight.

Shortly before Napoleon's rise to eminence the American revolution had been started by a "rag, tag, and bobtail" army of minute-men. The first victory won by the rebels was secured by a night attack

³⁸Count Yorck von Wartenberg, Napoleon as a General (2 vols.; West Point, N. Y.: Department of Military Art and Engineering, U. S. Military Academy, 1942), I, 60.

³⁹Ibid., I, 40-49.

⁴⁰Ibid., I, 96-99.

⁴¹Ibid., I, 192-94.

⁴²Ibid., I, 260-61.

⁴³Ibid., I, 293-98.

⁴⁴Ibid., I, 338-42.

⁴⁵Ibid., I, 365-70.

⁴⁶Ibid., II, 159-68.

⁴⁷Ibid., II, 437-41.

on an unwary Hessian garrison in Trenton, New Jersey, on Christmas night, 1776.⁴⁸

This operation illustrates well some of the hazards attendant on night attacks and some of the special considerations which must enter into night attack planning. The plan called for three columns to cross the Delaware River and converge on enemy garrisons at Trenton and Burlington; of the three columns which started, only that led by General Washington himself got across the river.⁴⁹ The difficulties of control and movement of large forces at night (Washington's Army totaled some 6,000 effectives)⁵⁰ are clearly evident here. Fortunately, this disadvantage was overcome by lack of alertness on the part of the defenders, who, by permitting themselves to be surprised, threw away any advantage they may have had in numbers. Here appears the second element almost always found in a successful night attack--the defender's violation of the principle of security.

With all their native skill as woodsmen, the Americans were by no means assured of victory in the night attack. On October 4th, 1777, Washington attacked the British General Howe's camp at Germantown, again planning for a coordinated attack which failed to materialize when several detachments became lost in the darkness and fog. The confusion became so great that some American units began firing on

⁴⁸M. F. Steele, American Campaigns (Washington, D. C.: War Department Document No. 324, Office of the Chief of Staff, 1909; also published under same title, Harrisburg, Pa.: Military Service Publishing Co., 1949), p. 31.

⁴⁹Ibid.

⁵⁰Ibid.

each other, with the result that initial successes were nullified.⁵¹ Again the difficulties of exercising effective control outweighed the advantages of initial surprise before these advantages could be capitalized on, and the familiar pattern of initial success followed by loss of control leading to ultimate defeat is repeated.

The influence of the psychological factors of night operations and their impact on the control problem, especially with ill trained troops, was demonstrated at the Battle of Camden, South Carolina, on August 16th, 1780. An American militia force encountered an approximately equal British force in a night meeting engagement on a narrow passage through a swamp. The American troops retreated in panic without firing a shot. "Within fifteen minutes the whole American left became a mob of struggling men, smitten with mortal panic, and huddling like sheep in their wild flight, while Tarleton's British cavalry gave chase and cut them down by scores."⁵² Lack of effective leadership may well have been part of the problem; the American general in command of this force was 200 miles away from the battlefield four days later.⁵³ In any case, success in night attacks demanded more than a frontier background, it would seem. This incident throws into sharp relief again the crucial importance of control to any successful military operation and the impact of training, to include training of leaders, on the ability to exercise that control at night.

⁵¹Richard B. Morris (ed.), Encyclopedia of American History (New York and Evanston: Harper and Row, 1961), p. 95.

⁵²Steele, op. cit., pp. 45-46.

⁵³Ibid., p. 46.

Insofar as the overall place of night attacks in Revolutionary War military operations, the minor role they played is really surprising in light of the frontier background of many--but by no means all--of the American soldiers and leaders.

The same insignificant role continues through the War of 1812, the Mexican War, and the Civil War. None of the decisive engagements of these wars was fought at night. One searches in vain for night attacks that are of any importance, even in a supporting attack role, in these campaigns.

A typical example of a Civil War night attack was the inconclusive but bloody engagement near Chattanooga on October 27th, 1863. The Confederates undertook to separate from the main body of the Union Army and destroy by night attack the Union rear guard division under Geary. Both the Confederate blocking force and assault force were repulsed after some quite heavy fighting. This operation a Confederate General later called " . . . one of the most foolhardy adventures of the war. " "Night attacks," he continued, "are specially valuable against troops who have been defeated and are retreating. They are of little value under any other circumstances."⁵⁴

Probably the most significant night operation--not an attack but rather a confused series of combats in a thick forest which carried over from a late afternoon attack--was that at Chancellorsville in which Stonewall Jackson was mistakenly shot by his own troops, who mistook his party for Federal cavalry. Later that same night (2-3 May 1863) an attempted Federal attack lost direction, missed the Confederate

⁵⁴E. P. Alexander, Military Memoirs of a Confederate, cited in Steele, op. cit., pp. 451-52.

lines entirely, was mistaken by other Federal troops for Confederates, and engaged in an hour long fire fight with its own troops.⁵⁵ With experiences of this sort, even a Civil War General could learn to be circumspect about engaging in night attacks.

The mass slaughter of the Civil War should have served notice that a change in tactics was overdue, because of the increasing part which fire had come to play in combat, but it apparently did not. The eventual victory by Grant was secured not by tactical innovation but by a dogged war of attrition. In battle after battle, of which Gettysburg and its Pickett's charge have come to be a symbol, the ability of a defender to place fire on the approaches to his position made the attacker pay a terrible price for movement. Much of this fire came from the artillery, which was usually in the front line firing direct fire; the infantryman's rifle was still too slow firing to stop a determined attack by itself, although its accuracy had increased considerably over that of previous infantry weapons. By the end of the Civil War breech loading repeaters and the carbines had been introduced as specialized weapons only, but had demonstrated their effectiveness in several skirmishes. The extensive entrenching done during the Civil War was a direct result of the improved range and accuracy of the infantryman's rifle.⁵⁶

The period after the Civil War saw continued development of the rifle and the widespread adoption of breechloading repeaters. Also, the machine gun which was to prove so deadly during World War I was

⁵⁵Ibid., pp. 342-43.

⁵⁶Bernard and Fawn Brodie, From Crossbow to H-Bomb (New York: Dell Publishing Co., 1962), pp. 135-36.

invented during this period, developed, and ready for general use by the end of the 19th century. The British Army adopted for use the fully automatic Maxim machine gun in 1889.⁵⁷

During this same period smokeless powder was developed. This provided a real advantage since it permitted both lighter, higher velocity weapons and made the disclosure of the firer's position less likely.

The Boer War was the first major engagement which brought these new developments to the battlefield. As such it provided an end to one era of ground combat tactics and a beginning to another which is still developing. The Boer War for this same reason marks the beginning of the second stage of military history insofar as night operations are concerned. In this stage the fundamental character of actual combat changes as armies are forced to engage more and more in type I and type IV conflicts involving extensive use of fire. From the dawn of history all the way through the Civil War in America and the Franco-Prussian and Russo-Turkish wars in Europe ground combat had been fought between masses of men in plain view of each other. From the Macedonian phalanx to the Civil War line of skirmishers, the enemy was a visible presence on the battlefield. Mass usually meant just that--masses of men moving in formation under the direction of a commander, bent on overwhelming the enemy by a combination of movement and sheer numbers at a decisive point.

Until somewhere about the end of the Napoleonic Wars, a general-in-chief usually sought a vantage point from which to observe

⁵⁷Ibid., pp. 146-47.

the minute-by-minute progress of the battle. By the time of the Civil War a general-in-chief had to depend on reports from subordinates to supplement his own observation because armies had become too big for one man to observe in a general action; a general had to try to be at the decisive point at the decisive time--and not infrequently managed to be somewhere else.

But, for all the general's difficulties, war was still to the individual soldier a matter of a clearly visible enemy presence. Lines of skirmishers, for all their raggedness, were still recognizable as lines; the progress of a battle was measured by the shifting to and fro of often confused and intermingled but nonetheless distinguishable lines and masses of men.

Beginning with the Boer War in 1899 all this changes; the battlefield becomes a place made even more terrible by its apparent vacancy. The immediate enemy of the ground combat soldier becomes not another soldier or body of soldiers, but bullets and shell bursts. Individuals are taught to seek safety in dispersion; more often than not they in fact seek solace by herding together.

The increased range and accuracy of the rifle is principally responsible for these developments. An American military attache with the British forces at Calenso in South Africa reported on the effects of rifle fire on British troops.

General Hart's brigade, the fifth, advanced into the open plain toward Bridle Drift [ford] in a column of companies closed in mass, 6 paces interval between companies, and 32 companies; and it was only after a shell from the "Long Tom," a 6-inch Creusot, from [the Boer position on] Groblers Kloof [hill] had dropped into their midst that they deployed. They were about 2000 yards from the river. The brigade advanced to the ford and found it impassable because of barbed wire entanglements. The brigade was

under murderous rifle and artillery fire at close range, and after suffering heavily, one company of the Dublin Fusiliers alone losing all its officers and 64 out of 100 men, it was forced to retire.

The second brigade advanced toward Calenso in extended order, two battalions to the left and two battalions to the right of the railroad.

About midway across the plain and about 2000 yards from the river, they were met by a terrific artillery and rifle fire from the kopjes [hills] in their front; the fire from Hotchkiss and Maxims [machine guns] being especially severe. The brigade suffered even more heavily than the fifth on the left.

The commander ordered field pieces up to support the attack. Before the guns reached their positions they were within the radius of the enemy's fire, and men and horses began to fall before the command "Unlimber" was given.

On the right the attack fared little better. The whole English army had recoiled from the line of Boer intrenchments. The battle was practically over by noon; and the few survivors in the front lines near the guns were captured along with the guns because Boer fire prevented their rescue.⁵⁸

This report vividly illustrates the impact of the new weapons in the hands of experienced marksmen making a determined defense on the tactical formations in use at the time by the British. Fire had become master of the battlefield, for the defender had a clear cut superiority in type I conflict which in this case kept the attacker from engaging in any other form of conflict.

The author of the report adds, almost as an afterthought, a comment which presages a development of warfare from that time to the present. "A striking feature of the battle was the total invisibility of the enemy, not a Boer being seen during the fight."⁵⁹

Of more importance to this study, though, was the reaction of the British commanders to the situation confronting them. In terms of

⁵⁸Captain S. L. H. Slocum, Reports on Military Operations in South Africa and China, Report No. 1, Document No. 143 (Washington: U.S. War Department, July 1901), pp. 12-14.

⁵⁹Ibid., p. 15

the analysis of Chapter III, the situation in South Africa--with its wide open, treeless terrain and the intense fire received from the enemy--should have been especially well suited to the night attack. On the other hand, the enemy was the equivalent of a well equipped guerrilla force instead of a then modern army. As such, the Boers had a better knowledge of the terrain and how to move across it than did the British. Still, any decrease in the ability of the Boers to bring their devastatingly accurate fire to bear on the British should have worked to the advantage of the British.

This consideration seems to have finally dawned on the British during the battle at Magersfontein in December 1899. Here about 13,000 British troops faced some 6,000 Boers dug into extensive intrenchments and protected by barbed wire entanglements. The open terrain promised extensive losses to daylight attackers. These same troops had been severely punished by the Boers in three daylight battles over the preceding two week period. The Highland brigade was directed to make a night attack on the left flank of the Boer trenches as a preliminary to the general daylight attack.

The brigade was moving in mass formations to facilitate control when they suddenly and unexpectedly encountered the barbed wire in front of the Boer positions. Before the attacking brigade could be deployed a withering close range rifle fire from the Boer trenches inflicted severe losses, throwing the entire attack into confusion. The survivors were pinned down on the barren slopes for many hours, finally retreating after suffering additional heavy casualties. The

general daylight attack was also beaten back by the Boers with heavy losses to the British.⁶⁰

Here the conduct of the night attack appears to be the principal factor leading to its failure. The fact that the Highlanders had been able to advance undetected to within a few dozen yards of the Boer trenches is highly significant; darkness had vitiated a Boer superiority which had been used to good effect in previous battles. The great equalizer had been at work. This operation is a classic example of a truth that is often overlooked by too eager proponents of the night attack. The approach to an enemy position is only one of the tasks required to deliver an effective attack. In this case that particular problem was solved nicely--at the expense of a formation, which, to get effective control, brought with it excessive vulnerability to enemy counteraction of precisely the kind which could have been expected. The lesson from this experience is that the decision to conduct a night attack and the methods adopted for such an operation must consider the entire range of tasks involved in the attack. The measures required to offset one difficulty--especially that of control--may well offset the advantages secured from darkness and the enemy's reduced observation. The commander must be careful to consider the influence on his relative combat power of all the factors bearing on night attacks, not just the factor which may be giving him the most trouble during the daytime.

It is precisely in this area that American doctrine is especially weak. By asserting that night attacks are normal operations, it tends to conceal from the commander some of the very real difficulties he

⁶⁰Ibid., p. 280.

may encounter when he seeks to use the overemphasized advantages of attacking at night.

The impact of this lesson is probably the reason one finds fewer night attacks by the British as the Boer War progresses instead of more. At Guion Kop on the night of 23-24 January 1900 the British succeeded in taking a Boer position with exceptionally light losses-- only to find at dawn that they had stopped some 600 yards short of the commanding terrain. There followed a bitter close range fire fight lasting all day, and that evening both forces evacuated their positions on the hill.⁶¹ Again, the very factor which assisted the initial success also contributed to making that success initial only and not decisive; the British forces did not occupy the right terrain because they could not tell in the dark what was the right terrain.

Another severe British defeat was administered by the Boers at Stormberg in early December, 1899. Again, this defeat was a result of poor reconnaissance which placed the British forces in a vulnerable position after an all night march.⁶² The difficulties of maintaining direction over a long distance at night, even in open country, were underestimated and inadequate provision made to overcome these difficulties.

The pattern of British response in South Africa began, then, with initial frontal attacks which were beaten back with severe losses

⁶¹Lt. von Gentz, "The German Infantry Regulations as Tested by the Experiences of the Boer War," Selected Translations Pertaining to the Boer War, War Department Document No. 224 (Washington: U.S. War Department, 1 April 1905), p. 123. Lt. von Gentz was a German observer with the Boer forces during the Boer War.

⁶²Eady, op. cit., pp. 230-36 (quoting British Official History of the War in South Africa, Vol. I).

by the rapid and accurate rifle fire of the Boer defenders. From this tactic the British turned to night attacks which, while successful in overcoming the immediate Boer advantage, brought with them other difficulties which led to disaster in some cases and indecisive results in others. From this tactic the British then turned to one of outflanking Boer defensive positions by overwhelming numerical superiority--the control and coordination of which required daylight operations, for the most part. The purely defensive tactics of the Boers contributed largely to the success of these tactics; in almost every case they would wait passively in their intrenchments for the British attack; their only counter to a flanking movement was to shift the location of their defenses.

The conclusions arrived at by the British themselves may be intimated from the fact that the revised Field Service Regulations issued after and based on the experience of the Boer War make no mention of night attacks as a device to overcome enemy fire superiority by day.⁶³

Thus, even in a war in which the analysis of Chapter III would have predicted extensive use of night attacks, they still formed a small part of total operations. They were tried, but poor execution--which is much easier to criticize than to prevent--caused them to be embraced with less than unbounded enthusiasm.

That this new interest in night attacks--even if it did lead to some disenchantment--was something more than an isolated occurrence of the Boer War was soon evident on the other side of the world. Here

⁶³Ibid.

two different armies--the Russian and Japanese--in substantially different terrain soon learned the same lesson the Boers had taught the British. Frontal attacks in daylight had become too expensive, even by then current standards. Severe losses to defensive fires by day led both opponents into making numerous night attacks. Here the state of training of the Japanese payed off by giving them substantially more successes than the Russians. Even so, an overall survey of night attack experience in this war confirms the caution with which night attacks should be approached. There were in the entire course of the war, lasting from February 1904 to September 1905, 106 night attacks of larger than company size. Of these, 47, or less than 45% (44.4%) were successful, where success is defined as the attainment of the objective. The Japanese, who won the war, had a total of 69 night attacks of which 37, or some 54%, were successful; the Russians succeeded in only 10 out of 37 such attacks, for a success ratio of only 27%.⁶⁴

Although the relevant comparison is a much more complicated one--what was the success percentage for daylight attacks and what were the costs in casualties of the two types of "successes"--this experience does point toward some useful conclusions. Night attacks are by no means a guarantee of success. There are very real difficulties which must be overcome to exploit the advantages of darkness, even if it is a great equalizer.

⁶⁴Great Britain, Committee on Imperial Defence, Official History (Naval and Military) of the Russo-Japanese War (3 vols.; London: Historical Section of the Committee on Imperial Defence, 1910-1920), passim. This tabulation was prepared by Captain C. G. Kershaw as an individual research project at the C&GSS, Fort Leavenworth, 23 March 1934. The material in this report has been checked against the original source and found to be accurate in each instance.

Specific illustrations on both Japanese and Russian sides are contained in the cited source. For purposes of this study the relevant consideration is that night attacks became an increasingly important part of total operations, with both parties resorting to them with increasing frequency as the war progressed. This result can be attributed to an increased awareness of the costs of attacking by day and an increased ability--from experience--to overcome the difficulties of conducting night attacks.

The experience of World War I is striking in the degree to which military leaders ignored all prior experience in South Africa and in Manchuria. The carnage of this conflict failed to impress the generals responsible for it; the World War I leaders' stand condemned not only for failing to learn from the experience of others--most of us are guilty of this--but also the much more serious charge of failing to learn from their own experience.

There were, of course, night attacks by both Allied and German forces, but these were ancillary to major operations. Part of the reason was the increasing reliance on artillery and the notion that the artillery had to have daylight to be effective. In one case the French refused to cooperate with the British in a night attack, ". . . insisting that the attack be made in daylight, in order that the artillery might have opportunity for observation during the final bombardment."⁶⁵

Such night attacks as were made were in large measure restricted to small units.

⁶⁵Great Britain, Official History of the War, Vol 5: Military Operations, France and Belgium - 1916 (London: H. M. S. O., 1930) p. 314.

The American drill regulations issued for the guidance of the American Expeditionary Forces incorporated this philosophy on night operations. These regulations recognized the decreased effectiveness of enemy fires, the increased difficulty of control, the problems of maintaining direction, and the "highly sensitive morale of troops" inherent in night operations.⁶⁶ These characteristics placed night operations in the category of "special operations." Detailed instructions--closely resembling those in current field manuals--for the conduct of the attack were included, as was the familiar admonition which is always such a help to the man on the receiving end of such guidance: "Only well trained, thoroughly disciplined troops should be employed in the night attack."⁶⁷ One can almost hear a harassed battalion commander's comment on reading that bit of doctrinal guidance.

Of more significance than even this implicit recognition of the difficulties of a night attack is another paragraph from these same regulations. "In position warfare, the intensified organization of obstacles and machine-gun defense usually limits night attacks to raids by small units."⁶⁸

This is not the place to challenge the validity of the deduction contained in this statement; suffice it for present purposes that this particular guidance was followed well during World War I, especially in Europe. Night attacks were much more frequent in the Middle East

⁶⁶U. S., War Department, American Expeditionary Forces, Infantry Drill Regulations (Provisional) (Paris: General Headquarters American Expeditionary Forces, 1918), V, Part II, 147.

⁶⁷Ibid., p. 150.

⁶⁸Ibid., p. 149.

theatre, largely due, it would seem, to the more open terrain and the more receptive attitude of the British forces principally engaged there.

Nevertheless, night attacks continued to play a minor role in military operations during World War I in spite of the definite defensive advantages created by extensive trenchworks and the machine gun.

In terms of the analysis of Chapter III, the experience of World War I is characterized by a defensive superiority in type I conflict, a virtual stalemate in conflict types II and III, and intensive concentration for the first time in a major war on conflict type IV, fire vs. fire. The heretofore unprecedented concentration of artillery was amassed in an attempt to destroy the enemy trenchworks and enemy machine gun positions. The defender was not trying to move (except to reinforce, of course); the aim of these massive barrages was to gain fire superiority which would then allow the attacking troops to move so they could close with the enemy. The trenchworks were in turn a response to the artillery bombardments--and so the cycle continued, with an overall defensive superiority of combat power which was overcome by brute force alone.

Even when it was terminated, the real tragedy had just begun; the insufferable irony was that all the slaughter had been for naught. All World War I accomplished was to set the stage for World War II.

Toward the end of World War I the tank promised to restore some capability to the attacker in the type I conflict, and much of the military effort between the wars was devoted to insuring that attacking troops could move against enemy fire. Then, World War II opened with the blitzkrieg--the German Army, at least, had learned well the lessons of the trenches and the tank.

CHAPTER V

THE NIGHT ATTACK IN WORLD WAR II AND KOREA

World War II experience offers a unique opportunity to test the doctrine of night attacks because of the wide variety of conditions under which combat occurred during that conflict. From the plains of western Europe, through the Russian steppe, the desert sands of North Africa, the mountains of Italy, the hedgerows of Normandy, and the rolling hills of the north European plain to the jungles of New Guinea, Guadalcanal, and Luzon there was accumulated a wealth of experience in both conducting and defending against night attacks.

The war opened with what amounted to pursuit operations in Poland. These were conducted at night as well as in daylight, of course, but represent no departure from the principles developed in this analysis. As indicated in Chapter III, the division may often attack at night for reasons other than considerations of the shift in relative combat power at night. The pursuit, a type II conflict, was an example cited in the initial development of the analysis.

The pursuit across Poland was pushed vigorously by the Germans. In the words of a German general,

Our strong tank and motorized units learned how to drive at night, instead of resting! Only in this way did we succeed in gaining an absolute operational advantage over an enemy, who, in true eastern fashion, also moved confidently and purposefully at

night. Had we "rested" during the night, the movement-happy, night-experienced and courageous enemy could have escaped easily.¹

Note especially the use of the term "absolute superiority" and the clear cut reference to a type II conflict of movement vs. movement. Under circumstances such as these, the utility of the present analysis would lie not in its ability to help a commander decide when to attack but in any guidance it could offer on how to attack.

That the Germans considered the factors affecting a type II conflict at night and took measures to offset the disadvantages accruing to the attacker is evident from the following description of the way a night pursuit was actually conducted.

Of course, there was no uninterrupted night-driving at thirty kilometers per hour. Things are not done that way. The advance can take place at a speed of ten kilometers per hour at the utmost, bit by bit, in "leaps" followed by halts which are sometimes of several hours duration. Armored reconnaissance has to be advanced again, mine obstacles must be removed, and destroyed bridges repaired before further movements are possible. Frequently only the advance parties or strong reconnaissance detachments are on the move, while the bulk of the motorized division halts. It all depends on the situation, the energy of the commander, and on the fitness of the troops in question.²

One can see positive evidence in this description of the attention paid to control and security in recognition of the fact that night, although it left the Germans with an absolute superiority of combat power, required some special measures to offset some disadvantages caused by darkness. One of the purposes of the analysis developed in this paper is to help isolate such disadvantages so that considered action may be taken to overcome them.

¹Guenther Blumentritt, "Operations in Darkness and Smoke," MS B-683 (Headquarters, U.S. Army Europe, 1952), p. 6. (Emphasis supplied.)

²Ibid., p. 7.

On the Western Front, as well night was used to continue attacks begun by day, to exploit successes, and to effect pursuits. General Rommel, later to become so famous for his brilliant exploits in the desert, used night movements on numerous occasions to press an attack during the advance across France.³

Nonetheless, it is well to remember that most of the German advances were made during daylight; the blitzkreig got its name from the effective employment of airpower in close support of rapid, wide swinging, deeply penetrating movements by armored and motorized columns. These operations required daylight for effective control.

The German advance into Russia in 1941 and 1942 used night attacks, but to a lesser extent than in Europe because of restricted road nets, reduced cross country trafficability, logistic limitations, and Russian resistance. The last element in particular (a type I conflict, it will be noted) made a real difference in the nature of the German night attacks in Europe and in Russia.

The Russians knew their country well, and the resistance they offered was entirely different from that offered by the Poles or the French. Tough and unperturbed they remained in their forests and swamps for weeks, even after the armored divisions had long passed through. This proved a serious difficulty and endangered the movement of supplies to an ever growing extent.

These peculiarities of the Russian theatre of war, the extreme indifference of the Russians to threats from the flanks and rear, as well as the considerable night experience of this tough and not easily perturbed enemy, hampered the nocturnal movements of our forces.⁴

Throughout these remarks runs the thread of a relative disadvantage at night to an otherwise superior attacker. Especially in the

³Ibid., p. 8.

⁴Ibid., p. 9.

type I and II conflicts involving attacker movement it is easy to see why night worked to decrease the attacker's relative combat power. Be it noted at the same time, however, that the Germans still continued attacks at night based on other considerations.

The Russians, generally inferior to the Germans in total combat power at this stage of the war, used the equalizing advantages of darkness to launch their 1941-42 counteroffensive.

The Russians, on the other hand, during their great winter offensive of 1941-42, started from the Moscow area and moved like a pack of wolves under cover of night and fog. During the bright moonlit nights of the east one could see the long, dark marching columns of Russian infantry, cavalry, sled units and motorized columns irresistably advancing over the icy, snow covered fields, all in constant motion and also unperturbed by our far advanced fighting fronts.⁵

Note especially the terrain--open--and the visibility conditions --moonlight--which served to reduce the attacker's control problems while still reducing defensive fire effectiveness. Here night was generating a pronounced shift of combat power in the attacker's favor in the type I conflict of attacking movement against enemy fires. Again, the effects of darkness were to reduce the combat power superiority of daytime--perhaps even remove that superiority.

The North African desert was the first theatre of operations in which Allied forces undertook extensive offensive operations. The most famous battle of that theatre, El Alamein, marked a turning of the tide from Axis supremacy to Allied supremacy.

In this theatre highly mobile forces with large armor components faced each other across largely flat, open terrain in dry, hot weather. Both forces depended to a substantial degree on artillery and

⁵Ibid., pp. 8-9.

tank armament as a major source of combat power. According to the analysis developed in Chapter III, night attacks should have been frequent--and so they were. All types of conflict were present, although type III was not used extensively. In particular, the influence of night on a type I conflict assumed particular importance.

The long, uninterrupted observation and fields of fire, and the clear weather usually found in the desert, worked to a daytime defender's distinct advantage. Artillery, armor, and air firepower made daylight movement to gain access to defensive positions difficult and often prohibitively expensive in casualties. The same conditions of open, easily traversed terrain and clear nights made short range visibility at night rather good, minimizing control problems. Small wonder night attacks were used frequently--the shifts one would predict based on the analysis of Chapter III would normally be expected to move relative combat power in the attacker's favor at night.

British and Commonwealth forces were engaged in the eastern sector of North Africa, and from these forces came the first experiences about night attacks. In fact, out of these initial experiences and the special conditions of mission, enemy, terrain, and own forces which existed at the time, grew the decision to open one of the decisive battles of the war, El Alamein, with a night attack. A British infantry brigade which was engaged in that battle and the rest of the fight across Africa made the following observations based on its experiences through the Sicilian campaign.

Ever since the Battle of El Alamein we have been very night-attack minded--in fact, we have seldom even thought of attacks except in terms of night attack. The reasons are obvious. El Alamein was the biggest night attack yet staged and was a great success; therefore, night attack stock went very high. It is

equally obvious, however, that at El Alamein special conditions and considerations existed that have not applied to the same extent since. Over that flat and open desert, an attack to a depth of 7,000 yards in daylight could never have been successful. Moreover, it was possible to carry out large-scale rehearsals over terrain that was an almost exact replica of the ground over which the actual attack was to be made.⁶

The experience of the New Zealand division operating in the same area confirmed that of the British brigade and pointed up the manner in which darkness served as a substitute for fire support under the special conditions present at the time (November-December, 1942).

The following was among the lessons of the attack in desert warfare as listed by the New Zealand division.

Once again it was shown that the attack against a properly organized resistance must have either the cover of darkness or an adequate artillery support. This applies whether tanks are used or not. In every case where tanks or infantry were committed in daylight without sufficient covering fire, they had very heavy casualties. On the other hand the moonlight attacks on Belhamed, Sidi Rezegh and Ed Duda were all successful against superior enemy forces. The daylight attack in the area between Belhamed and Sidi Rezegh was also successful as it was possible to cover the attack with 25 pounder and machine gun concentrations fired ahead of the leading tanks.⁷

On the western side of the African battle the first American divisions to engage in offensive operations soon learned the same lessons. The 34th Division, summarizing the lessons it learned in combat beginning with the landing at Algiers in 1942 and extending through the major portion of the Italian campaign, came to the same conclusions as had British and New Zealand units on the eastern side

⁶U.S., War Department, Military Intelligence Division, "Notes on Night Attacks," Military Reports on the United Nations, Number 14 (15 January 1944), p. 32.

⁷2nd New Zealand Expeditionary Force, "The New Zealand Division in Cyrenaica and Lessons of the Campaign" (Headquarters, New Zealand Division in the Field, 4 January 1942), p. 27.

of the African battle area. At the same time, the 34th Division lessons recognized some of the inherent limitations of the night attack.

Extremely difficult to carry out, a night attack is nevertheless the only method assured of reasonable success across open ground and against the German masters of terrain. The Division, once battle seasoned, has always preferred this type of attack under the above circumstances, but each man queried emphasizes the necessity for strict control to lessen the possibility of lost contact between attacking elements. Attack plans must be the essence of simplicity. Masterly conceived double envelopments generally only result in friendly forces shooting each other.⁸

⁸U. S., War Department, Army Ground Forces, "Lessons Learned in Combat," Report M. T. O. No. A-Misc-89, Headquarters Army Ground Forces, 28 April 1943, p. 8.

There are a large number of these reports, gathered on the spot during hostilities by observers from the Army Ground Forces (AGF) and compiled for the information and guidance of other units operating in or training for deployment to the theatre in question. Before being forwarded to Headquarters Army Ground Forces, these reports were often reviewed by the theatre headquarters concerned to insure that the lessons were in fact representative of experience throughout the theatre. The comments of the participants in the action and any comments of the AGF observer are clearly identified as to source. Frequently the reports contain as inclosures training memorandums, after action reports, orders, maps, and similar original documents pertinent to the subject covered.

The reports cover all aspects of military operations; tactical and operational experiences are, of course, a principal concern. Because the reports were collected by disinterested observers sent in from outside the unit for the express purpose of finding the consensus of combat experience; because they record, often in the interviewee's own words, experiences from a wide variety of units in varying circumstances; and because the reports were reviewed at higher levels in the theatre to insure that they were in fact representative of the experience in the theatre these AGF reports are an invaluable source of original data on the operations of the U. S. Army in World War II. This author's experience has been that the AGF reports were considerably more useful than unit after action reports in most instances. In too many cases the unit after action report speaks in vague generalities and minimizes difficulties encountered. Especially is this true of reverses, but even success gets short shrift. (For example, the following extract from the After Action Report of the 104th Division dated 5 March 1945, p. 7, is typical:

"This day provided a new demonstration of TIMBERWOLF skill and daring. No new or green troops could have so perfected and executed the plans described above. Each attack was completed with amazing success and the prisoner total swelled to over 1,500 in three days fighting. The enemy was caught completely off balance by the night attacks of the TIMBERWOLF veterans. MERZENICH, ELLEN,

Here we find a recognition that the advantages of the night attack are not free goods--the age old problem of retaining the requisite degree of control is well illustrated by this particular deduction from experience. Also implied in this statement is the importance of the state of training to the ability to control to the necessary degree. Note that as the division became "battle seasoned" it relied more and more on night attacks. That is, as its troops became better trained it became easier to exercise the control needed--probably, in part, because the amount of immediate control required declined.

Nor was this particular effect limited to the American forces. The British forces in Africa recognized the same limitations on night attack operations.

The difficulty of control is immediately apparent. In particular, the task of the company commander is much more difficult by night than by day. In this type of country, a company can be expected to carry out only one straightforward mission by night. If a company is given successive missions to carry out after its initial mission has been completed, the chances of its successfully accomplishing the later missions are very remote.⁹

ARNOLDSWEILER and the key high ground in the vicinity of the above mentioned castle fell to the power of the advancing 104th Infantrymen and the thunder of division guns.

"In addition to these spectacular successes the division lashed out at 2100 and seized the frightened towns of MORSCHENICK and GLOZHEIM." (What a tremendous help to the historical analyst that particular passage is!) This condition obtains in too many cases because the after action report was written hurriedly by some junior officer or soldier who was pressed by other more demanding requirements. At higher echelons it was reviewed by personnel who faced the same problem, until by the time it reached the attention of some one who had the qualifications and the time to recognize its shortcomings it was hopelessly embedded into the system by the passage of time, distance, and other paperwork. Decry this situation the historian may at his leisure; avoid it he will not.

The AGF Board system of observers and reports was designed to offset precisely these drawbacks--and did so splendidly. Relatively senior, experienced field grade officers were sent specifically to seek out and report on lessons learned--this was their full time job.

⁹U. S., War Department, "Lessons Learned in Combat," p. 33.

In the same vein, the New Zealanders recognized, ". . . that night operations require most careful training."¹⁰

The demanding requirements and promising potential of night attacks were summarized best by one of the most outstandingly successful practitioners of this form of attack. Major General Terry Allen, Commanding General of the 1st Division in North Africa and the 104th Division in Europe, had this to say about the night attack experience of these two units:

Both divisions had been carefully trained. They had a keen sense of team work and combat discipline. And, they had the "will to get the job done--come hell or high water."

Properly used [the night attack] will gain yardage at minimum cost. Improperly used, the assault units will "get a bloody nose" with nothing to show for it.¹¹

General Allen's comment clearly supports the experience gained by other American units and by Allied units in the desert warfare of World War II.¹² Here in open terrain where two modern forces opposed each other, night attacks increased the relative combat power of forces which had substantial daytime air and armor

¹⁰2d New Zealand Expeditionary Force, loc. cit.

¹¹Major General Terry Allen, personal letter to Major General Harold K. Johnson, Commandant, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas, dated 11 May 1962 (emphasis in original). This letter accompanies three booklets prepared by General Allen from 1st Division records which describe in detail the successful employment of night attacks by the 1st Division in two major campaigns in North Africa and one in Sicily.

¹²General Allen's comment points up vividly another major consideration in a unit's ability to conduct an effective night attack--the quality of the leadership in the unit. But in this regard night attacks differ not at all from any other operation. A well led unit can do better at anything than a less well led unit. Therefore, this specific factor will not be further considered. The quality of a unit's leadership should not change when the sun goes down; the state of training of leaders and led may mean that much heavier burdens are placed on leadership after dark, but this is another matter entirely.

superiority. The long range fire capability of the enemy and his mobility did not make daylight attacks impossible, so long as fire superiority was maintained. Nonetheless, daylight movement was difficult at best. Use of concealment afforded by darkness enabled the attacker to gain an often decisive superiority in type I conflict.

The analysis of Chapter III is clearly substantiated by the experience of Allied forces in North Africa.

Many of the same units engaged in North Africa took part in the invasion of Sicily, affording an excellent opportunity to test their attack practices in substantially different terrain but in largely the same climate. Further, the Sicilian campaign contained the first experience with an American airborne division on the offensive at night.

Insofar as the ground units were concerned there was little diminution in the popularity of the night attack. Although much more mountainous than the terrain in Africa, Sicily was still largely open, affording the defender excellent long range observation. General Allen's cited comment, the lessons of the 34th Division, and the experience of the British brigade on Sicily have already referred to the continued success of night attacks during the Sicilian campaign.

"In Crete we had learnt by experience that provided there were no wire entanglements the enemy could be turned out of any position at night with the bayonet."¹³

Not only those units which had learned to fight at night in Africa, but also other units as well soon found the night attack to be advantageous if the unit was prepared to function at night. In the

¹³2d New Zealand Expeditionary Force, op. cit., p. 26.

selections below, quoted from participants, note the ever recurring reference to the requirement for training. This is taken to reflect the increase of the control problem at night and the influence of training on the ability to exercise control.

From our experience in Sicily, there should be more training in night street and town fighting. I don't mean just house clearing - they gave a fine course in that at the Invasion Training Center at PORT-aux-POULES - but thorough training in forcing your way through a town. That is, training in recognizing and how to sieze the key points from which a town can be controlled so that the advance can go on through. In Sicily we had to take town after town, many of them at night. Special training of this sort will be of great value in other operations like ours in Sicily . . . (Major Izenour, C. O., 1st Bn., 7th Infantry.)¹⁴

One commander made even more specific reference to the control problem at night.

There should be a much greater amount of night training of all kinds. Particularly training in night attack problems, and preparation and organization of position at night. Unit commanders and leaders must learn to be able to maintain control over their organizations at night in widely dispersed positions. Proficiency in the organization and plans for alert and assembly for action at night are of great importance. Commanders must organize and teach their men to avoid firing on each other in the darkness. That has happened several times over here. Units must be trained in the technique and tactics of limited objective attacks at night. We actually had one limited objective attack operation involving an advance of 9 miles. This distance was unusual, of course, but we carried it through well because we had had good prior training. I would say the greatest difficulty in night attack is reorganizing in the darkness. I would stress this as the most important part of training for night action. In all operational night exercises, harp on reforming and reorganization after an attack or other action . . . (Lt. Colonel Wiegand, C. O., 2d Bn., 179th Infantry.)¹⁵

The importance of the confidence which training instilled in the men of the unit and the impact of that confidence on the psychological

¹⁴Allied Force Headquarters, Mediterranean Theatre of Operations, G-3 Training Section, "Training Notes From the Sicilian Campaign," 25 October 1943, p. 12.

¹⁵Ibid.

element of relative combat power were pointed out clearly by two commanders.

Training for night operations - put this near the top of your list. In our regiment we had two full weeks of straight night training, in which we actually turned night into day, and we did everything after dark, a regular schedule of all activity after night-fall. After this we had a steady schedule of night operational problems, three or four nights a week. This training was, next to the program of physical hardening, the most valuable training we had in preparation for Sicily. Our men learned to know the "world of the night" as familiarly as daylight living and working. Actually the men now prefer night operations to those in the day. There are two reasons that probably contribute to this, first, it's always cooler, and second, you don't come under so much artillery fire . . . (Lt. Colonel Doleman, C. O., 3rd Bn., 30th Infantry.)¹⁶

We had no difficulty in operations at night because we had received excellent and thorough training in this. Before the campaign we had a month when we actually lived, trained and operated entirely at night. Reveille was at 6:00 PM, and we literally turned the night into day for the purpose of training and getting the men as much at home at night as in the day. The men learned to get about with ease, to be silent and move without noise, to talk in whispers, and to gain facility in direction, movements, etc., in the dark. After a month of this, with later special night field exercises, we were especially well fitted for all forms of night work, and it paid dividends in Sicily. One thing also to remember, planning and preparation of night operations is equally important. In our operations we planned thoroughly, and made careful reconnaissance . . . But I don't mean to imply that we were perfect. In spite of all this excellent training, however, we did have some patrols go astray, and one company actually got lost. The only way to prevent this is to make a careful prior reconnaissance, and take notes and bearings on landmarks that can be unmistakably identified at night. The use of pre-selected reference points is essential. This was particularly true in Sicily because at night so much of the terrain looks the same . . . (Colonel Rogers, C. O., 30th Infantry.)¹⁷

Nor were the lessons of night operations limited to the infantry units. The commander of a tank company expressed his experience as follows.

¹⁶Ibid.

¹⁷Ibid., p. 13.

Most of our marches were made at night. I don't think you can give the men too much training in blackout driving, especially on difficult roads and terrain. Sound training in all sorts of night operations can be very important. We operated a reconnaissance platoon of light tanks right up with the point in night advances. Light tanks work well with the point at night because they are very difficult to see and hit, and they make enough noise to unnerve the enemy and make him open fire and disclose positions. Then the other elements can locate him and go in and get him . . . (Captain Owens, Company "C," 66th Armored Regiment.)¹⁸

By the same token, artillery units had to learn to operate at night in order to render effective support to other combat units.

Almost every occupation of position was made at night. Between 60% and 70% of the reconnaissance for position in the battalion was made at night. There must be thorough training in night operations for new units. You must be able to do everything, reconnaissance, map reading, and orientation, occupation, etc., as proficiently as in daylight. In Sicily we had almost complete air superiority, but the mountains afforded observation of the roads which had to be used. This led to much of our movements being made during darkness . . . (Major Wendt, C.O., 41st F. A. Battalion.)¹⁹

These and a large number of other experiences were reviewed and summarized by the Seventh Army commander, Lt. Gen. G. S. Patton, Jr., as follows:

There is considerable feeling in favor of night attacks. When these are used . . . they should be executed by taking advantage of the moon, or they should be put on 2-1/2 hours before dawn if there is no moon, in either case on a limited objective. The heavy weapons and artillery should be put into position and registered the night before. They can then cover the attack until the flashes of the leading infantry show they are coming close to the objective.

. . . A night attack whether executed by moonlight or just prior to dawn must be confined to limited objectives, and these objectives must be carefully reconnoitered the previous day, and the men who made the reconnaissance must lead the units to the objectives. In making this reconnaissance it is sometimes necessary for patrols to expose themselves in order to draw fire.

. . . Night attacks against unreconnoitered positions, particularly in hilly country, are very apt to fail because viewed

¹⁸Ibid., p. 82.

¹⁹Ibid., p. 48.

against the stars or moonlight, one hill looks like another and troops misjudge their locality by as much as a thousand yards
 . . . ²⁰

A division commander summarized the experience of his division in the same campaign by pointing out that one had to invest training effort in order to secure the returns of night attacks, but that such an investment was likely to pay rather high dividends.

This [45th] Division employed night attacks to the fullest extent possible. They were universally successful. It was found that whenever the enemy could be kept on the move continually, they were unable to execute demolitions to the fullest extent and emplace mines. It is believed that whenever the enemy employs inferior forces in delaying action a continuous pressure must be exerted. Without question the employment of successive night attacks reduced casualties of this Division to a considerable extent. In many cases the Axis forces had very well prepared positions which if attacked during daytime would have caused considerable delay. It is recommended that troops be trained to operate at night at least 50% of the time, and this method of warfare will obtain dividends commensurate with the effort expended . . . ²¹

Note in this passage reference to two different kinds of night attacks. One kind, made to keep the pressure on a delaying enemy, had little to do with the movement of relative combat power at night. Overriding considerations dictated these night attacks. The second type is the type where casualties were less than they would have been in daytime. Here night apparently shifted the balance of combat power in the attacker's favor. The analysis here, while encompassing both these kinds of attacks, makes a clear distinction between the reasons for the attack. The conduct of the attack will presumably be influenced

²⁰Allied Force Headquarters, Mediterranean Theatre of Operations, Training Memorandum Number 50: "Lessons From the Sicilian Campaign," 20 November 1943, p. 13.

²¹Ibid.

by this reason, for the commander will try to maximize the effect of advantages while holding the effects of disadvantages to an acceptable level.

Thus, as in Africa, the experience of American ground troops confirms the validity of the analytical approach developed in Chapter III. The results predicted by that analysis were the results which occurred in the Sicilian campaign. A caution is in order, however; in one very major respect the operations in Sicily were special operations. Essentially the entire operation was a huge pursuit. In the words of Allied Force Headquarters,

The campaign of the American forces after the initial establishment and extension of the beachheads was on the whole a pursuit action throughout. The enemy for the most part fought a stubborn rearguard and delaying action, and utilized the terrain, prepared defenses, mines, and demolitions to the fullest possible extent. This special nature of the action is particularly important in any consideration of the combat lessons contained [herein].²²

The British brigade which had been involved in both the North African and Sicilian campaigns recognized another set of special circumstances having to do with especially favorable climate and weather conditions.

If moonlight (anything from three-quarter moon to full moon) can be guaranteed during the whole of the attack and period of consolidation, it probably offers the ideal conditions for an attack, particularly if a large minefield has to be gapped. In the Mediterranean it could be guaranteed, because cloudy nights were almost unknown; in Europe, however, it is almost impossible to forecast a considerable time in advance what the cloud conditions--and consequently the degree of illumination--will be on any particular night.

For these reasons, it seems that daylight attacks may be more common in the future than during the past year.²³

²²Ibid., p. 2.

²³U. S., War Department, "Notes on Night Attacks," p. 32.

Therefore, it is well to reserve judgment about the extent to which the operations in Sicily serve as a confirmation of any analytical framework alleged to be comprehensive in scope. The lessons of the combat in Italy provide a better testing ground of the utility of night attacks in mountain combat against a determined defender.

One other element of the Sicilian campaign bears mention, however, and that is the employment of airborne forces. This was the first Regimental Combat Team sized airborne operation attempted in military history. Whether one considers it a thrilling success or a resounding flop depends on one's definition of success and one's interpretation of the division's mission. This is not the place to argue this issue. Suffice it to say for purposes of this paper that the division, while it unquestionably did a great deal of good in the assault, did not even come close to accomplishing the specific missions assigned it. The reasons for this were complex and numerous; one of the reasons undoubtedly was the difficulty of gaining effective control of an airborne unit at night after a parachute assault.²⁴

This difficulty is a major one at the small unit--squad, platoon, and company--level. To attempt to conduct coordinated division sized operations at night by parachute assault is to attempt that which is beyond the capabilities of humans--as now equipped, at any rate. What success attended OPERATION HUSKY was clearly achieved in spite of, not because of, the fact that it was carried out in darkness.

²⁴William T. Ryder, "Report on OPERATION HUSKY," cited in Airborne Forces Dispersed and Separate Operations (R2106/4) (Fort Leavenworth: Department of Joint, Combined, and Special Operations, 1964), pp. L3-I-10-11.

In the words of an observer sent along to report on the operation:

As far as carrying out the assigned mission of the combat team, the operation was not successful. The flight restrictions imposed and weather conditions encountered made the mission most difficult, if not impossible, to accomplish. . . . The overall result was that instead of the parachutists being dropped on the chosen DZ's they were dropped in increments in a general area about twenty miles southeast of the objective area. Since the parachutists were unable to identify themselves on the ground, the problem of organization in the dark was intensified. The first night found parachutists in groups varying from ten to two hundred and fifty operating with their greatest strength in front of the 45th Division, which was on the right of the 1st Division sector.

The vigorous and aggressive ground action of the parachutists in the sector in which they landed won the admiration of the ground troops. By daylight of the first day all groups were attacking enemy installations wherever they were found. . . . The largest single coordinated action fought was on D plus 1 day, when a battalion of parachutists protected the left flank of the 45th Division, by driving off an enemy German force which was in the gap between the 1st and 45th Division. There is no doubt but what the numerous isolated and scattered attacks carried out by the parachutists materially aided the advance of the 45th Division, and greatly added to the breakdown of Italian morale. The confusion of the Italian Command in the sector must have been intense with the variety of the parachute attacks in the wide sector over which the majority of them landed. Therefore, although the assigned mission was not executed as planned, it is the opinion of this observer that the use of parachute troops was justified by their aggressiveness on the ground after landing. This was the direct result of Colonel Gavin's explicit instructions to all troops that regardless of where they were landed they were to take up the attack and fight toward their objective area.²⁵

Here airborne troops made a real contribution to success-- but not the planned contribution. This example was the first of several lessons to this effect which World War II provided.²⁶

²⁵Ibid.

²⁶Depending on how one chooses to read history, one can make a case that World War II experience argues against the feasibility of any division sized airborne operation, day or night. But this is the rankest heresy--and the subject of another thesis, not this one.

To return to ground operations, then, Sicily had demonstrated that, under special circumstances, night attacks were of considerable utility in mountain warfare, even when the attacker had air, artillery, and armor superiority. At the same time, the central importance of the state of training had been clearly developed; night attacks were a two edged sword which could cut the wrong way in the hands of an untrained unit. This, in turn, was because control--the essential element of any coordinated action--was harder to exercise at night; only a well trained unit could retain its ability to function effectively as a unit at night.

The initial stages of the Italian campaign correspond closely to the Sicilian experience, largely because the same governing conditions were repeated. But as the campaign progressed north along the Italian peninsula the climate and terrain gradually changed, until in central and northern Italy a classic example of modern mountain warfare developed.

As Allied forces landed in Italy the open war of sweeping maneuver fought in the desert and the vigorous pursuit of Sicily gave way to a new kind of fighting. Ideal defensive terrain, foul weather, and shortages of personnel and equipment all combined to turn Italy into a slow, bitter, grinding, foot-by-foot, yard-by-yard, and mile-by-mile struggle to wrest control of the country from a skillful and determined defender.

In studying the war in the desert one can identify division attacks which began at a certain time, followed a discernable course of fire and maneuver, and terminated on the seizure of an objective. One can find a division maneuvering two or three regiments to insure

their mutual support. Battles begin and end, sandwiched in between periods of rapid movement.

The war in Italy became another kind of war entirely, starting from the first days at Salerno beaches and lasting till the last days in the foothills of the Alps. Fighting was not literally continuous, but it was nearly so. As in most mountain warfare, independent operations by small units assumed increasing importance. Too often terrain precluded maneuver; "up the gut" was the only way to go. Division operations were often continuous for days and weeks at a time as company relieved company or battalion relieved battalion. A coordinated division operation, in the sense of two regiments maneuvering to support each other, was the exception instead of the rule. Narrow defiles through the mountains and the shortage of roads meant that many times a division attack was in fact a column of battalions, these in turn were in columns of companies, and so on until the division attack was a squad of infantry advancing along a narrow, twisting mountain road.

Two factors exerted a major influence on the use of night attacks by elements of the divisions. First, the Germans carefully selected defensive positions which gave them long range observation over the approaches to these positions and German artillery effectively exploited this observation advantage. While friendly artillery had the difficult job of trying to hit dug in positions among the rocks of the mountains, German artillery was firing at attackers who were necessarily in the open and who were often restricted by the terrain to narrow avenues of approach. In such a situation the advantage in conflict type I clearly lay with the defender, and he put it to good use.

The combination of these circumstances made daylight movement a very costly business for the attackers; too costly, often, to be worth the price.

The second factor influencing the use of night attacks was also related to the terrain, but in a different way than the first. Few and poor avenues of approach severely restricted the possibilities of coordinated fire and maneuver and also limited the feasible depth of objectives. Although the rough terrain did not directly facilitate control, of course, it did reduce substantially the magnitude of the control and coordination effort required during the attack because the overall action was often a number of relatively isolated small unit actions. If the only available avenue of approach would hold only an infantry squad, the control problem was one of controlling that squad; other units could not participate in the attack except in a severely limited extent.

The net result of these influences was that most of the deliberately chosen attack times in the Italian campaign were at night. Once started, however, an attack often lasted for several consecutive days and nights without letup, until a particular position was secured. Then a "pursuit" to the next position began--a pursuit characterized by plodding down the reverse slope of a ridge or mountain, under intense artillery fire, fighting through skillfully sited road blocks and mines to get across the intervening valley, and starting the whole thing over again at the base of the next ridgeline. There were pauses between the periods of maximum exertion. During these pauses supplies were brought up, equipment repaired or replaced, and strength gathered for the next surge. Then the whole grisly script was played out again on a

new stage just like the previous ones, except that it was a few miles further north.

The American entry into Italy began with a night amphibious assault at Salerno on 9 September 1943. The first troops hit the beaches at exactly 0330, the designated H-Hour. The boats had reached the beaches without opposition. Violent reaction developed immediately as German flares lit the sky and German machine guns raked the flat beaches. At eight minute intervals the succeeding waves came ashore, although the state of their organization was tenuous.²⁷

Thus began a battle which was to rage with only sporadic interruption for five more days as Fifth Army fought to expand and consolidate its hold while the Germans tried desperately to drive the invaders back into the sea. During this period there are numerous instances of attacks during night and day, but their significance to this particular study is limited. Most were launched because they had to be launched at the time to react to enemy pressure or to take advantage of a fleeting opportunity. There was little opportunity for any deliberate choice about whether to conduct a night attack.²⁸

Commencing 15 September the advance of the Eighth (British) Army from its landings on the southern tip of Italy forced the Germans to withdraw from in front of the Salerno beachhead.²⁹ This initiated the "pursuit" from the beachhead to the enemy's next major defensive position behind the Volturno River some fifty miles to the north.

²⁷U.S., War Department, Salerno: American Operations From the Beaches to the Volturno (9 September - 6 October 1943) (Washington: U.S. Government Printing Office, 26 August 1944), p. 19.

²⁸Ibid., pp. 20-74.

²⁹Ibid., pp. 75-76.

During this "pursuit" the Allies encountered for the first time the deadly combination of German delaying tactics and Italian terrain.

Moving forward from the Salerno plain to the Volturno River line, the VI Corps faced mountains and an enemy skilled in mountain warfare. As the Germans, chiefly from the 9th Panzer Grenadier Regiment (16th Panzer Division), withdrew north they used the shrewd delaying tactics which American soldiers had experienced in central and northern Sicily. Yet the terrain in Italy was even more rugged, and the fall rains were soon to prove an additional hindrance. The pattern of enemy rearguard action was clear. At chosen hillsides, small rearguard detachments of motorized infantry dug in their machine guns; the riflemen, placed higher up on either side, forced our troops to deploy and make time-consuming wide envelopments along the mountainsides.

Enemy artillery pieces, mostly self-propelled, well forward in echelon, harassed our columns and interdicted the roads at critical spots. The mountains afforded excellent positions for this practice. One 88-mm gun, for example, strategically placed on a bare nose along Highway 91 north of Contursi, delivered fire on almost the entire length of the valley floor. The piece apparently was not camouflaged, but the light haze in the mountains and the flashhider so concealed the gun that only an observer directly in line with the barrel could spot it. Four to five hundred yards behind, a tank armed with a 75-mm gun supported the 88. From this position the enemy caused us the greatest possible delay; then he pulled out and moved farther back up the road.

Both in the approaches to the mountains and in the mountains themselves, blown bridges and minefields were numerous. Bypasses were always difficult and at times impossible. Occasionally an enemy detachment protected a demolition; more often blown bridges were merely left as time-consuming and troublesome problems for our engineers. When the enemy began finally to run out of high explosive charges, he substituted artillery shells or mines. All the way up to the Volturno, our troops kept hearing the roar from German demolitions.³⁰

At the start of this "pursuit," the 1st Battalion, 504th Infantry, found that even though a night attack was no guarantee of success, a daylight effort was likely to generate even more trouble.

During the afternoon of the 16th, Col. Reuben H. Tucker of the 504th led his 1st and 2nd Battalions on the long, arduous march cross-country from Tempone di San Paolo up the Albanella ridge. After a brief rest there, the paratroopers moved out at 1630, the 1st Battalion in the lead, to launch a night attack against Hills 424 and 315 from the south. As night fell, enemy artillery became

³⁰Ibid., pp. 80-82.

more active. Its intensity and accuracy hampered the advance and caused units to lose contact with each other, but the 1st Battalion drove back enemy outposts in the vicinity of Mount del Bosco, and there the troops bivouacked for the night. In the morning of the 17th the 1st Battalion moved to the unnumbered hill east of Altavilla, while the 2nd Battalion held the north slopes of Mount del Bosco. Regimental Headquarters was cut off with severe losses. The 1st Battalion repelled a particularly heavy attack at 1100, but the Germans continued minor attacks. Enemy artillery pinned down the paratroopers.

The men of the 504th spent the day and night of 17 September crouched in foxholes, with artillery shells exploding everywhere. They had neither food nor water for more than 36 hours because their canteens had been emptied on the long trek from Tempone di San Paolo. Split into small groups, they had fought hard and had suffered heavy casualties, but had not recaptured Hills 424 and 315. The Germans were not ready to give them up. Finally the enemy began to withdraw, and his artillery fire diminished. Altavilla was deserted by late afternoon of the 18th, and tanks of the 191st Tank Battalion accompanied paratroopers into the town.³¹

A more striking example of defensive combat power superiority in all four forms of conflict would be hard to imagine. This stubborn delaying action permitted the escape of the German units retiring from the southern part of Italy. Similar actions all along the front soon impressed on our troops the very real advantages which the concealment of darkness afforded. In these circumstances the equalizing effects of darkness were working to the Allies' advantage because the Germans were superior in the type I conflict which is so large a part of any attack. Still, the advance had to be maintained in daylight as well, and was; on 6 October 1943 the Fifth Army reached the south bank of the Volturno to complete the first major surge of the campaign.³²

One week later the resupplied and reinforced Allies, having seized complete control of the south bank of the Volturno, struck across the raging current into the forbidding mountains on the north.

³¹Ibid., pp. 77-79.

³²Ibid., p. 90.

These mountains anchored a major German defensive position and provided excellent observation over any movement in the Volturno valley. Principally to avoid the effects of this observation, the Volturno crossings began before dawn.³³

Once joined, the battle for a firm foothold across the Volturno raged without appreciable letup for two days. By nightfall on 14 October friendly forces held all but fifteen miles of the river line in bridgeheads one to three miles deep.³⁴ Thus began another series of scattered, vicious delaying actions by which Germans extracted the highest possible price in terms of time, effort, and casualties for each mile of ground. The time gained by this delay was used by the Germans to complete another strong position on natural defensive terrain across the narrow neck of Italy.

In pushing German forces north from the original Volturno crossing sites, the 6th U.S. Corps was operating along an axis of the upper reaches of the Volturno. The advance was so constricted by terrain that the 34th Division had to cross the river three times. Each of these three crossings was begun at night.³⁵ The reason for selecting darkness in each case is clearly illustrated by the experience of the 1st Battalion, 135th Infantry, at the second of its Volturno crossings on 20 October. The regiment completed its crossing at 0155 on a foggy morning.

³³U.S., War Department, From the Volturno to the Winter Line (6 October - 15 November 1943) (Washington: U.S. Government Printing Office, 11 December 1944), p. 1.

³⁴Ibid., p. 54.

³⁵Ibid., pp. 43, 91.

As soon as the 135th Infantry was across the river, it advanced toward Alife. The infantry was delayed during the morning as it crossed the valley, which is cut by deep and swift canals. Demolition of bridges slowed the progress of the 776th Tank Destroyer Battalion, which moved along the poplar-lined road to support the attack. The 3d Battalion, hampered only by sporadic artillery fire and occasional minefields, entered bomb-blasted Alife before daylight on the 20th. When the fog lifted unexpectedly during the middle of the morning, the 1st Battalion was caught in the open flats southwest of the town. The enemy, in the hills above, immediately poured rifle and machinegun fire on the men and kept them pinned down. Until dark the battalion received considerable artillery fire and also encountered for the first time the German rocket gun, the Nebelwerfer.³⁶

This example illustrates the pronounced shift in relative combat power in favor of the attacker which darkness created. No long studies were needed to trace the possible advantages and disadvantages of night attacks. Facing an enemy with observation and long range fires as effective as those illustrated here, failure to use the concealment afforded by dark bordered on being foolish. In spite of numerical, air, and artillery superiority on the part of the attacking forces, offensive maneuver was seriously hampered--often prevented--by the fires of an enemy who had a large portion of his total combat power in the form of long range firepower. At night this long range firepower was less effective, permitting the attacker to close with the defender and bring the attacker's numerical superiority to bear. Such a shift in relative combat power is exactly the one predicted by the analysis of Chapter III.

This lesson was learned repeatedly during the Italian campaign; it is cited numerous times in observer reports and in reports of lessons learned from the theatre. For example, an Army Ground Forces observer, describing the special considerations which were

³⁶Ibid., p. 72.

found in mountain warfare, mentioned the necessity of gaining surprise.

Because mountainous terrain naturally lends itself to the defense, surprise infantry night attacks along a wide front without initial artillery preparation offers the best chance for success. The French and also the Americans have been more successful when using these tactics than they have when making daylight attacks under observation after artillery preparation. American troops were able to capture German positions on Mt. Sammucro by a stealthy night attack. French troops were successful on Mt. Mona Casale and Mt. Pantano by moving up the slopes and getting almost on top of the Germans before daylight.³⁷

The same observer commented on the difficulty of substituting fire superiority for the concealment of darkness, as many units had been able to do in desert operations.

It is easy to see if we fire artillery preparations on forward slopes prior to the attack they will not only be relatively ineffective, but will advertise the attack. Daylight attacks in narrow sectors are easily observed, canalized, and give Germans opportunity to shift reserves for counterattacks.

On the other hand, if we attack quietly at night without initial supporting fires, we gain surprise and pass through the German artillery belt defense system without receiving observed and concentrated fire. Also, if we attack on a wide front on converging slopes German machine gun and mortar fire will be scattered and not as effective. Upon reaching the upper slopes at daylight, the Infantry commander should request artillery and mortar fire on observed German positions and troop concentrations to nullify counterattacks. The French believe that the Infantry should carry automatic weapons and grenades in abundance to stop the inevitable German counterattack. Colonel La Parra, Regimental Commander of the 4th Regiment of Goumiers Marocain, said the surprise pre-dawn attack was so successful near Mt. Pantano that approximately one hundred German prisoners were captured before they could get their shoes on.³⁸

When a unit had an experience or two like this one, the word soon spread, and night attack became popular, even though the people

³⁷U.S., War Department, Army Ground Forces, "Report on Mountain Warfare," File 319.1/107 (For Obs) (10 May 44) GNGBI, Headquarters Army Ground Forces, 10 May 1944, p. 3.

³⁸Ibid., p. 5.

involved did not call their situation one of "defensive superiority in conflict type I and IV." Nonetheless, that is exactly what their situation amounted to.

Another AGF observer who visited units in Italy from 23 December 1943 to 8 January 1944 reported on the extensive night attack experience of these units. The Executive Officer of one regiment told the observer that the regiment had conducted a number of night attacks, all successful. Methods used had been those in then current doctrine, which had worked well.³⁹

One experience related by this same observer illustrated vividly the point that it is the surprise which darkness helps achieve and not simply the darkness itself which is so large an element of the favorable type I shift in favor of the attacker. This surprise usually comes from being able to approach close to the enemy position unobserved, especially if his security measures are lax. Sometimes, however, surprise is a result of a change in tactics. In the example below, both darkness and a variation in tactics were used to secure surprise.

On HILL 769 one of our companies got up close to the German bunkers. The company could not move in daylight because of the lack of cover, so a night attack was decided upon. It would be moonlight, so it was decided to place smoke on the bunkers at the time of attack. This was done but, as soon as the smoke screen formed, the Germans left their bunkers, moved to their right front and left front to the edge of the smoke screen nearest our positions, and caught our attacking units in flank with machine pistol fire. Our attack failed.

On a later night attack, we changed our tactics. We put down a smoke screen as before, waited just a few minutes, and then

³⁹U.S., War Department, Army Ground Forces, "Infantry Notes," Report of AGF Observer, Army Ground Forces Board, AFHP, NATO, 23 January 1944, p. 1.

fired a heavy concentration of 81mm mortar light shell right into the smoke screen. This was repeated two or three times that night. Then a final smoke screen was laid down. Our troops advanced as soon as this screen had formed and caught the Germans under cover in their shelters.⁴⁰

The significant point of this example is simply that use of the night attack is no guarantee of success, even if the mechanics of that attack be conducted properly. In this case the smoke screen was initially a signal that the attack was coming. Later the smoke screen meant that a mortar concentration was coming, until the attack successfully achieved surprise.

By the end of 1943 the Fifth Army had learned many combat lessons from their all too effective triumvirate of instructors: the Germans, the terrain, and the weather. Summarizing those lessons which applied to night training of replacements, the G-3 Training Section of Headquarters Fifth Army issued on 3 December 1943 a memorandum on "Recommendation for Training of Troops based on Experience of the Italian Campaign."⁴¹

After making the standard allegation that the German soldier did not like to fight at night (and the standard omission that neither did the American soldier), the memorandum provides an unusual insight into the nature of night operations in mountain warfare.

The nature of night operations are such that they become a series of small unit operations, dependent largely for success on the ability of leadership of the small unit (squad) leader. In patrol work, the small unit leader is on his own and is responsible for the fate of his men and the success of his mission. In a coordinated

⁴⁰Ibid., p. 4.

⁴¹Headquarters Fifth Army, Memorandum dated 3 December 1943 to Lt. Col. Brisach (Army Ground Forces Observer) on subject of night training. This memorandum is an enclosure to Army Ground Forces, "Infantry Notes."

attack, the degree of coordination is dependent on the small unit leader's knowledge of the plan, his ability to carry it out, the measures he employs to maintain contact or liaison with adjacent, supporting, or supported units. In all operations at night, the ability of the small unit leader to control his unit, rendered increasingly difficult by darkness, will determine the success or failure of his mission.

The soldier often becomes lost at night. It then may well depend on his previous training whether or not he again rejoins his unit. He must be trained to act by himself when the occasion demands. He must be taught to have patience, to be still for hours if need be.

More often than not mines will have to be removed at night if at all. Germans cover mine fields with fire and daytime removal is rendered difficult or impossible. Mine laying should be done at night to prevent the enemy from knowing their location.

The difficulty of maintaining contact or liaison in the dark requires increased use - intelligent use - of prearranged signals, which are known to all concerned. A misinterpreted signal or an unknown signal is worse than none.

The soldier must learn to swim to enable him to cross rivers at night. It is believed that most or all river crossings in face of enemy resistance will henceforth be made under cover of darkness. The terror of water in the dark to a non-swimmer is defeating.

A battalion commander related that for a night attack he had been given an objective seventeen miles distant. Needless to say he came nowhere near obtaining it. Limited objectives is the answer, now and always, and the more inexperienced the officers and men, the more limited the objective.⁴²

The last comment in particular points up the central role of the state of training in a unit's ability to conduct a successful night attack. This state of training affects, of course, the unit's ability to do anything; even march along a road. But the control difficulties at night are so pronounced that the state of training is likely to have more bearing on a unit's ability to attack at night than on its ability to attack by day.

For example, in a report of a successful company size night attack, the observer relates a statement by the company commander

⁴²Ibid., pp. 6-7.

which shows how crucial control is to success and how hard it can become in the crunch of combat.

It took nearly three hours for the AT platoon to dispose of the bunker which was their first objective. During all this time I had my two leading platoons fire alternately. One platoon would fire for just a few minutes and then would move about 30 yards as fast as they could crawl. The other platoon would fire while they were moving. At night, moving around like that makes it hard for the Germans to put effective mortar or rifle grenade fire on you, because they try to put it on the place where they last spotted you by the flash of your rifles. It doesn't make much difference whether you move forward, backward, or to the flank, because the Germans will hit your former location quite accurately. 30 yards is enough to move because their mortar shell does not have a bursting radius of over 30 yards, while the bursting radius of their rifle grenade is much less. I think it's a good idea to mix up the directions in which you move because it not only makes it harder for them to outguess you, but I think it confuses them and makes them think you have a larger force than you really have. Anyway, it certainly cuts down casualties. However, it's hard to do with green men. The lieutenant who commanded my left platoon, the sergeant who commanded my right platoon, and myself, had to continuously expose ourselves to get the new men moving. We had to rush one group of 6 or 8 men to the new location, then run back to move the next group, and so on.⁴³

By and large these summaries reflect accurately the experience of the Fifth Army throughout the Italian campaign. The push from the Volturno paused temporarily at the Winter Line, a heavily fortified line running across the narrow part of the peninsula. The main positions behind this line were called the Gustav or Cassino Line. They began at the west coast, ran northwest along the Gargliano River, thence along the Rapido to Cassino. In the extremely rugged terrain forward of these positions was a hastily constructed Winter Line, planned as a final delaying position in front of the Gustav Line but held fiercely because of the successful delay achieved there.⁴⁴

⁴³U. S. , War Department, "Infantry Notes," Inclosure 4, p. 3.

⁴⁴U. S. , War Department, Fifth Army at the Winter Line (15 November 1943 - 15 January 1944) (Washington: U. S. Government Printing Office, 14 June 1945), pp. 5-6.

Here again, the defenders had carefully selected their positions to command the approaches the attackers would have to use, and put this commanding terrain to good use.

Along the whole Fifth Army front, German engineers made very skillful use of terrain and fortifications to hold our forces back. They laid mines on the road and trails, at the heads of gullies, and in the natural cross-country approaches. All bridges and culverts were destroyed, and sites for bypasses were mined. Machine-gun and mortar emplacements, many of them dug four or five feet into solid rock, covered nearly every path. Not even intense artillery concentrations could smash these positions. On the slopes of mountains, behind stream beds, and across narrow valleys, dozens of mutually supporting machine-guns were sited to weave a deadly pattern of cross fire. As a result of these defenses, small forces of the enemy could hold the gullies, draws, and difficult trails that led into the mountains, even in the face of strong attacks.⁴⁵

These efforts were backed up by a skillful and determined use of artillery which exacted a high toll from the Allies for the limited amount of ammunition the Germans sometimes had.

Enemy howitzers and long-range guns, often self-propelled and well defiladed behind protecting crests, could reach nearly every area held by the Allied troops. The trails and roads they had to use, bivouac sites, and the front lines were all subjected to harassing fires. Peaks, such as Camino and Sammucro, provided posts from which enemy forward observers could see every movement made by our forces in daylight. Rain, snow, and fog limited visibility much of the time, but still most of our movements had to take place under cover of darkness. Behind the mountain barrier, on the other hand, the Germans could supply their troops with relative ease and could maneuver almost at will to reinforce the comparatively small detachments that manned individual defenses.⁴⁶

Under these circumstances the reliance on night attacks which Fifth Army units had developed continued unabated.⁴⁷ Not all these

⁴⁵Ibid., pp. 8-10.

⁴⁶Ibid., p. 12.

⁴⁷Ibid., for specific examples see, pp. 18-19, 21, 23, 36, 50, 55, 62, 71, et sequentes.

were successful, nor were all daylight attacks failures, of course. Still, the advantages of properly conducted night attacks over properly conducted daylight attacks stand out sharply in comparing these actions, for the same reasons already developed--principally because superiority of daylight combat power rested with the defender in the two types of conflict which made up almost the total encounter.

The same lessons emerge from a study of the bitter struggle at Anzio beachhead from January through May, ⁴⁸ and the spring offensive of 1945. ⁴⁹

Only when they reached the broad, flat Po River valley in the closing days of the campaign did the units in Italy have a chance to practice anything even resembling the open warfare employing extensive close air support which was characteristic of the fighting in western Europe. ⁵⁰ Therefore, the lessons developed to date may be said to represent accurately the accumulated experience of the Italian campaign. As indicated in developing these lessons, they confirm the analytical framework advanced in Chapter III.

The combat in western Europe provided another excellent testing ground of military doctrine since it pitted the same two enemies

⁴⁸U.S., War Department, Anzio Beachhead (22 January - 25 May 1944) (Washington: U.S. Government Printing Office, 1 October 1947).

⁴⁹The Viscount Alexander of Tunis, Report by the Supreme Allied Commander Mediterranean to the Combined Chiefs of Staff on the Italian Campaign, 12th December 1944 to 2nd May 1945 (London: His Majesty's Stationery Office, 1951), pp. 41-48.

⁵⁰U.S., War Department, U.S. Fifth Army, 19 Days From the Apennines to the Alps (Milan, Italy: U.S. Fifth Army, 1945), pp. 38-46.

against each other in substantially different terrain and weather conditions.

Europe is, moreover, the tactician's favorite crucible; it is more nearly "normal"--meaning like home--than most other areas where World War II was fought. Moreover, the European theatre produced most of our World War II heroes, and, because of the size of the operations, most of our veterans.

The terrain encountered in this theatre is marked more by its variance than by any single outstanding characteristic. One type of terrain often dominated operations in other theatres--Italy for mountain fighting, Africa for desert fighting, and the Pacific for jungle fighting--but no single type characterizes western Europe's terrain. This is another reason the experiences of combat from here are especially valuable. The same variability is a reason one must be especially careful about generalizations based on European experiences.

On 6 June 1944 the Allies struck across the English Channel and seized a beachhead on Normandy. Less than a year later the war in Europe ended with the unconditional surrender of Germany on 7 May 1945. Obviously, then, the war in Europe was much more a war of movement than was the war in Italy. Allied air superiority was more pronounced than in Italy, and the better weather permitted more frequent employment of close air support. Coordinated employment of all arms was easier because of the more favorable weather and terrain. Because this coordination increased control requirements, because effective close air support was limited to daylight hours, and because the terrain was generally less favorable to the defender than that in

Italy, much less use was made of night attacks in Europe than in Italy or Africa.

Finally, many units with no combat experience were introduced into the European campaign, and this large influx of new units could only be expected to reduce the reliance of night attacks, especially since the Allied superiority of combat power was such as to make daylight attacks a successful measure, for the most part.

There was, of course, a great deal of fighting done at night. Much of it, however, was a result of continuing an action begun in daylight but not completed by nightfall. In special circumstances--as variations in tactics; to offset reverses suffered during daylight; to get across open terrain and close with an enemy--all these and other reasons as well were behind night attacks conducted in western Europe.

Perhaps the best way to demonstrate the role of night attacks in European fighting is to examine in detail the experience of the 104th Division. This division, commanded during most the the campaign by Major General Terry Allen, was regarded as the outstanding practitioner of night attacks in the European campaign.⁵¹ And for good reason; General Allen was a militant enthusiast of night attacks. He had trained his division in this particular facet of tactical operations. He repeatedly emphasized the advantages to be gained from properly executed night attacks.⁵² On one occasion General Allen, informed that one of the 104th's regiments was still moving after dark, said,

⁵¹Charles B. MacDonald, The Siegfried Line Campaign (Washington: U. S. Government Printing Office, 1963), p. 223.

⁵²Allen, loc. cit.

"Good. The more they push under cover of darkness the better it is for 'em." ⁵³

The purpose of treating the 104th Division's experience in detail is, then, to demonstrate the maximum extent to which night attacks were used by a U. S. division in the European fighting.

The 104th Division was initially assigned to the First Canadian Army and put into the line for the first time on 23 October 1944 near the Belgian-Dutch border. With the exception of two moves to other sectors, the division fought continually until VE Day. ⁵⁴ During that period the division launched 45 separate attacks and continued the attack without pause after seizing an assigned objective 28 times. Of the 45 "new" attacks, 11--not quite one-fourth of the total number--were launched at night. Of the 28 continued attacks, 11 were continued at night, for a total share of something more than one-third in this category.

The point here is that it was not frequent resort to the night attack which earned the 104th Division its reputation as night fighters but rather the skill with which night attacks were employed and the successes gained thereby. Often overlooked in this unit's record is its well deserved reputation as a skillful day fighting division. Time after time the after action reports contain such remarks as "13 close air support sorties employed today, " "The Division artillery materially assisted the progress of the attack by firing 7,324 rounds in

⁵³104th Infantry Division, "G-3 Journal, 22 November 1944, " After Action Report, 7 December 1944, hereinafter cited as 104th Div AAR.

⁵⁴104th Div AAR's, 15 November 1944, 7 December 1944, 5 January 1945, 5 February 1945, 5 March 1945, 5 April 1945, and 5 May 1945.

support of attacking units," and the like. The 104th Division story is one of skillful application of all available air and fire support to assist the advance of infantry units. The 104th stood out as a master of night attacks not because it attacked at night whenever it got a chance, but because it knew when to use night attacks to advantage and how to conduct them properly when circumstances called for one.

The 104th was so practiced in the employment of its units at night that it successfully used tanks to support the infantry in a night attack on 25 February 1945. Even the tank platoon leaders--usually very leary of getting near enemy infantry at night--agreed that under the particular circumstances the operation had much merit.⁵⁵

Other units in Europe used night attacks to a lesser extent--and, sometimes, with less skill. An AGF observer reported on the poor use of the tactic in southern France.

This period (advance to Moselle River, D+24 to D+35), and to some extent the previous one, was characterized by numerous night attacks and advances without prior reconnaissance, and with distant objectives. Such violations of Field Service Regulations were foredoomed to failure. An enemy prepared to exploit such improper employments could easily have converted some to disaster. The energy of the troops was dissipated on such missions, which were easily accomplished soon after daylight.⁵⁶

Implied in this observation are the very definite limitations on night attacks which are brought out by the analysis of this paper. Too often these limitations are overlooked by proponents of night attacks in their enthusiasm for a technique which has limited application.

⁵⁵104th Div AAR, 5 March 1945, p. 8.

⁵⁶U.S., War Department, Army Ground Forces, "Extracts from Observers' Reports," Headquarters Army Ground Forces, 17 February 1945, p. 3.

Another view on the employment of tanks at night arose from the experience of a tank battalion in western Europe.

With present equipment offensive night fighting by our tanks is usually ineffective.

a. Our guns cannot be satisfactorily laid for direct fire at night and usually are helpless against previously laid AT guns and bazookas.

b. Road blocks must be established before darkness, so that guns may be laid and zeroed in. Experience has proved that road blocks established after dark are ineffective insofar as tanks are concerned.

c. Tanks are considered a great morale factor in night attacks, both positive, as affecting our troops, and negative, as affecting enemy troops. The latter evaluation is believed erroneous, as we have had many tanks destroyed in night fighting by AT fire and bazookas. I believe there is a general misconception as to the capabilities of tanks at night. Nothing is so detrimental to the morale of tank units as losing tanks in fruitless night attacks, usually without being able to fire an effective shot in return. ⁵⁷

Most of the time daylight was required for effective tank/infantry/artillery coordination. This was illustrated by the experience of an armored division in Europe.

During recent operations it was found and proven that tanks can be used effectively, in cooperation with the infantry, in the assault and reduction of enemy strong points. However, there are several factors that must be taken into account if the operation is to be successful.

First, the attack must be made in the early morning or late evening - preferably early morning. In early morning tanks and supporting infantry can assemble under cover of darkness. Ground haze and limited visibility, that is usually the rule in early morning, is a distinct advantage to the attacking force. Second, extensive use of supporting artillery should always be employed. It should be used for both a "softening-up" effect and for screening purposes through the use of smoke. A smoke screen is found to be more effective during early morning. It is almost a "must" that the tanks be screened by smoke for protection from hostile anti-tank fire.

With this type of coordination the tanks can give excellent close support for the infantry "mop-up" squads. The objective can be

⁵⁷U. S., War Department, Army Ground Forces, "Summary of Lessons Learned in Combat," Board Report Number A-216, Headquarters Army Ground Forces, 17 March 1945, p. 3.

taken quickly with a surprisingly low number of casualties to our forces.

A few rounds of colored smoke on the objective are a distinct aid in guiding tankers to the objective.⁵⁸

The tactics outlined here throw into sharp focus the advantages of screening ones own forces and movements from the enemy's long range observation while retaining enough short range observation to insure proper control and coordination of effort.

Also implicit in this example is the substitution of firepower for concealment which was shown up in so many other instances. This phenomenon is a case of a superiority in one form of conflict (type IV) acting as a substitute for a superiority in another form of conflict (type I).

The foregoing example should not be taken to mean that tanks were not effectively employed in night fighting. The African experience has already been covered. In Europe, there were several examples of successful night operations by tank units. Without exception these conformed to the pattern of small unit, limited objective night attacks conducted in response to special circumstances. The lessons gained from these experiences support those learned from other night attack operations. For example, the implications for control of a detailed study of tank units in night attacks has been summarized by a group of armor officers.

Control is probably the most important consideration in planning night operations. The extreme difficulty in controlling armored units during night attacks can only be overcome by close cooperation with supporting infantry, by excellent communications, and by extreme simplicity in artificial means of direction finding.

⁵⁸U. S., War Department, Army Ground Forces, "Comments of Ground Commanders," Board Report Number A-172, Headquarters Army Ground Forces, 25 September 1944, p. 8.

In the preceding combat examples, such simple devices as guiding on burning buildings, following prominent roads, following tank tracks in soft earth, taking a compass direction, and firing overhead tracers were successfully used to establish direction. The one attempt by the Canadians to use radio direction beam failed.⁵⁹

In terms of the analysis of Chapter III, the campaign in Europe was conducted between enemies and in an environment such that, more often than not, night shifted relative combat power in favor of the defender. This is not to say the defender was necessarily superior in combat power at night--only that he was less inferior in total combat power at night than in daylight. Night again performed its equalizer role.

This conclusion is supported by the comments of the Germans themselves, who indicated that night came to be regarded as their ally.

During the two world wars, night and other periods of poor visibility, such as fog and snowstorms or rainstorms, gradually came to be considered the ideal time for action. Interference from the air reduced fighting and paralyzed movements in daylight hours, with the result that the space between the front and the most remote corner of the rear areas was often empty and deserted. During the hours of darkness combat and movements resumed with new intensity. After a while the German soldier considered this mole-like existence as normal, but the conclusions that should have been drawn from these undeniable facts in setting up training schedules were completely inadequate.⁶⁰

Another German general made a revealing comment in discussing the lack of night attacks by American forces on the Western Front.

During the invasion in 1944 we did not experience night attacks in the full sense of the word. There was usually a lull in the fighting during the nights, which in June were short. But even during

⁵⁹Major Leonard J. Jewett, et. al., Armor in the Night Attack (Fort Knox, Kentucky: U. S. Army Armored School Research Report, June 1950), p. 58.

⁶⁰U. S., Department of the Army, Night Combat, Department of the Army Pamphlet Number 20-236 (Washington: June 1953), p. 1.

the autumn of 1944, at the German frontier, real large scale night attacks were not nearly as effective as in the east, opposite the night-happy Russians. This was probably due to a reluctance to accept the hazards inherent in every night battle. There was also no necessity for the Allied Command to incur these hazards because the air force was far more effective during daylight and the tanks could drive with more security.⁶¹

Especially revealing is the comment about "no necessity" to incur the "hazards inherent in every night battle." These hazards are those of losing control and magnifying any reverse suffered. The conclusion that on the Western Front night shifted relative combat power in favor of the defender is supported by the available evidence. Hence, the infrequent use of night attacks by American forces in this theatre was to be expected. Attacking at night in Europe surrendered relative combat power to the enemy unless special circumstances obtained, as they did only infrequently. Again, the results of the analysis of Chapter III are confirmed.

On the other side of the world a completely different war developed. In the Pacific the same soldiers--Americans, Australians, New Zealanders, British--fought a different enemy--the Japanese--in completely different circumstances from those which obtained in Africa, Sicily, Italy, and western Europe. The Pacific campaign was largely a series of bitter struggles for out-of-the-way islands, most of them completely unknown until they suddenly appeared in the morning headlines. The climate was for the most part tropical; and, until the landing in the Philippines, the terrain was more often than not a tropical jungle, not infrequently mountainous as well. The Japanese defense was tenacious at every step, and the nature of the terrain

⁶¹Blumentritt, op. cit., p. 20.

precluded any war of movement. Strategically the Pacific was a war of grand movements measured in hundreds and sometimes thousands of miles at a leap. To the men in the divisions the war was a series of boat rides between long periods of bitter fighting.

The Japanese Army had made extensive use of the night attack in the Russo-Japanese War and in the guerrilla type operations in China and Manchuria before World War II. Hence, at the outset of the war Japanese troops were well trained and experienced in night operations, especially infiltrations by individuals or small groups. Early in the Pacific war, the Japanese tendency to rely on night attacks was the subject of a comment by the U. S. Army.

The Japanese put considerable stress on night operations. At night they use much closer formations than during the day in order to prevent loss of contact. . . . To surprise and confuse the opposition is one of the major night objectives, and this result is gained by silent infiltrations around the flanks and between defense areas. Frequently the Japanese crawl great distances at night to a point where they can leap upon the opposing forces before the latter are able to take action. . . . When the Japanese had neutralized the Dutch outer defenses, they sought to penetrate further with strong patrols.⁶²

The first U. S. experience in jungle warfare was accumulated on Guadalcanal, beginning in August 1942. Shortly thereafter American troops entered the jungles of New Guinea to assist the Australian forces in counterattacking the Japanese. In these two actions the Japanese offensive drive in the Pacific was blunted, and American soldiers and marines began to learn a new kind of warfare. Marine participants in the Guadalcanal fighting described it as follows.

⁶²U. S., War Department, "Japanese Warfare, Summary, " Military Intelligence Service Information Bulletin, Number 16 (20 May 1942), pp. 55-56.

All of the Japanese attacks have been on a narrow front at widely separated points. . . . When given his choice [the Japanese] operates exclusively at night. He attacks practically en masse. The result for him has been almost complete annihilation in every case.⁶³

Even discounting this statement for possible Marine tendencies to avoid understatement, there was apparently something strange at work to get the results indicated by this statement. Why would the Japanese continue to attack at night with such results?

Captured orders indicated that these attacks were planned as coordinated attacks, but that failure of planners to estimate properly the difficulties of negotiating the formidable terrain made them arrive at U. S. positions at separate and uncoordinated times.⁶⁴

As a result of the difficult terrain, the darkness of the jungle, and the Japanese tactics, the Marines soon learned how to use night to their best advantage. "We have carefully avoided night attacks, making all of our offensive moves by day."⁶⁵

The experiences of U. S. Army units in the Solomons, New Guinea, and other Pacific campaigns corresponded to that of the Marines. A summary of 6th U. S. Army experience in the Pacific contained the following comment.

In the Solomons and New Guinea campaigns no accurate maps were available, the jungle growth was dense, existing trails were obscure, and orientation at night was most difficult. The enemy on the other hand, were completely familiar with the terrain and

⁶³G. C. Thomas (Colonel, U. S. M. C., then Chief of Staff, 1st Marine Division), in Close Up of Guadalcanal: Verbatim Statements of Participants (Washington: Operations Division, War Department General Staff, 1 February 1943), p. 15.

⁶⁴Ibid.

⁶⁵Ibid., p. 9.

the trails, since they had operated in these areas for some time and had constructed most of the trails. It was soon learned that under such conditions our forces could gain little by night operations. Also, it was found that a well organized all-around perimeter defense invariably could repulse enemy night attacks and attempts at infiltration, at light cost to our own forces and heavy cost to the enemy.⁶⁶

The experience of other units corroborated these lessons.

It has been found by all units in this [XXIV] Corps that the most efficient and least costly way to kill Japs is to let them attack at night. The Banzai attack is the ultimate in efficiency. The success of a unit here is measured in terms of how many Japs it has killed, so rather than promote night attacks on our part, the best solution seems to be to get a good perimeter defense and then get the Jap to attack. The Jap seems incapable of making a coordinated attack and his blind fanatic frenzy apparently prevents him from learning from his own errors. For example, the Japs attempted a night attack against one of our company perimeters, walked into our fire lanes, and were heaped up one on the other. A half hour later another attack was staged in the same spot and was again wiped out. It would appear that although perimeters were designed for jungles, the Jap night habits seem to make the perimeter a desirable feature of night defense, without regard for terrain. Officers here will use it wherever they go.⁶⁷

Prior to the Leyte and Luzon campaigns, night operations became practically non-existent because in the dense jungle growth on little known islands, together with the unprecedented lack of maps of any value, night operations, large or small, not only availed nothing of value but resulted in senseless expenditure of trained personnel. On the other hand, the Japanese policy of uncoordinated night attacks by small units against organized positions offered continuous opportunities for the annihilation of such units at little cost to ourselves. Since the Japanese persisted in this policy, our forces abandoned normal night operations for all practical purposes and adopted the policy of waiting for the enemy to expend himself against us.⁶⁸

⁶⁶U.S., War Department, Headquarters United States Army Forces in the Far East, Letter, FEGC 370.2, 1 April 1945, Subject: Night Operations in Pacific Ocean Areas, Incl 1, p. 1.

⁶⁷U.S., War Department, Army Ground Forces, "Report on the Okinawa Operation," Headquarters Army Ground Forces, 1 May 1945, p. 27.

⁶⁸U.S., War Department, United States Army Forces in the Far East, "Night Operations in Pacific Ocean Areas," USAFFE Board Report Number 279, Headquarters United States Army Forces in the Far East, 3 May 1945, p. 1.

The adoption to the Japanese tactics took time and some bitter experiences, of course. Initially, Japanese troops were able to turn the psychological aspects of night operations to their own advantage until American troops became inured to the routine. Major General O. W. Griswold, Commanding General of the 15th Corps during some of the initial encounters with the Japanese, described this impact in a personal letter to the Commanding General, Army Ground Forces.

The Japs move around at night like owls. They usually talk and jabber like magpies and make no attempt at concealment. They taunt our men and try to make them fire so they can put mortars on them. They prowl, even to the extent of jumping into detached fox-holes and killing by knife or bayonet. These tactics are very disconcerting to untried troops, and are a cause for much neurosis. They learn names, like "Sgt Smith" or "Lt Jones" (some speak excellent English), and in the dusk will boldly walk about calling these names, and when the person unsuspectingly comes up, they kill him and fade away, etc. We encounter a nucleus of highly trained such people from the 13th Jap Infantry. They were efficient killers and caused plenty of grief, initially. They imitated birds, animals, etc., for communication, and worked on the feelings of our men with screams, weird noises, fire crackers, etc., even to using a phonograph.

We learned to stop early enough in daylight to organize for the night. One way is to make a "corral" like in the old Indian days, an all-around defense with two-man or three-man fox-holes on the outer perimeter. Nervous men have been known to get scared of each other in the dark, and cut each other up at times with fatal results. Inside were grouped the heavy weapons, the command group, etc., in three-man or four-man fox-holes, which worked out well here. Only the outer perimeter defense fired, and then only in the case of serious attack, but the best method is to stretch a trip wire within good hand grenade distance, to which trip wire could be tied a few empty food cans which rattled when anyone fell over it in the dark. Then the outer perimeter line opens up with hand grenades at the noise. Inside the outer perimeter, the work was done on prowlers which sifted through, with the knife or bayonet only. After a few nights of this, the Japs left us pretty much alone at night. They found it didn't pay off. One good way to discourage night work is to put down the artillery. They don't like that at all. Battalions like to call for their own artillery, but they don't like adjacent battalions to do it, especially if the front line is not straight.

When [we are] mentally prepared and properly trained, I think a Jap night attack need never be feared by our troops. It's the best way I know of to kill plenty of Japs in a short time. But it is

a fearsome thing for untried troops, and almost wrecked one regiment before it found itself. Our training should take cognizance of this.⁶⁹

These experiences make abundantly clear the importance of training to the psychological influence of night operations and the importance of the psychological attitude of troops to their ability to operate at night and the ability of the unit commander to exercise effective control. To say that training is important to a unit's ability at night is fatuous; more good training improves a unit's ability to do anything. The point illustrated so vividly by Major General Griswold's remarks is that trying to operate at night without the required amount of training invites disaster. This is simply additional evidence that one has to pay the piper in training investment for the advantages of night operations and that one ought realistically to evaluate the effects of night on relative combat power before one charges off through the jungle at night.

The failure of the Japanese to stop attacking at night was a source of considerable wonderment among American forces. One commander on Guadalcanal expressed the view that undue stress on the advantages of night attacks might have accounted for this apparent anomaly. "Our officers feel that the Japs have placed so much stress on night fighting that they cannot or do not fight well at all in the daytime."⁷⁰ Surely this explanation is insufficient, though. For one

⁶⁹Major General O. W. Griswold, personal letter dated 29 August 1943 to Lt. General Leslie J. McNair, Commanding General, Army Ground Forces. This letter is an enclosure to Letter, file AG 370.2 (29 Aug 43) OP-S-C, U.S. War Department, 30 September 1943, Subject: Personal letter to Lt. General L. J. McNair from Major General O. W. Griswold re Japanese operations.

⁷⁰Thomas, op. cit., p. 9.

thing, the Japanese forces often showed a remarkable ability to fight during the daylight in opposing American advances. For another, having an ability to fight at night should in no way diminish the ability to do the same thing in daylight. Finally, this opinion overlooks the virtually complete daytime air superiority and the substantial artillery and other fire superiority enjoyed by U. S. forces. In particular, the Japanese might well have had even higher losses attacking in the daytime when they would have been exposed to the close air support and observed artillery fire available to U. S. forces. Yet, this artillery fire and air support is hard to bring to bear in dense jungle terrain, so a clear fire superiority should not of itself entirely account for Japanese continuation of night attacks in the face of repeated failures.

For whatever reasons, the Japanese night attacks did continue and American forces did continue to avoid night attacks almost entirely. Japanese failure to amend their unprofitable night attack tactics put U. S. forces in the position of reaping the benefits of an attacker's bad judgment about night attacks. Best that a well intentioned but nonetheless misguided emphasis on indiscriminate resort to the night attack not lead us down the same or a similar path.

In terms of the analysis being tested, the conditions obtaining in the Pacific simply did not favor night attacks for the Japanese. What about the great equalizer role of darkness? This may still have acted, only to leave the Japanese still at a substantial net disadvantage in combat power at night. This would represent case DD'(1) on Chart 2, where the defender is superior at night, but less superior than in daylight.

But this almost proves too much. The implication is that the Japanese should not have attacked. In fact, under the circumstances they probably could have achieved greater delay by not attacking. Even so, there is no excuse for conducting uncoordinated attacks even if one has to attack in the face of superior combat power. As indicated in the previous chapter, well conducted night attacks--those which use the advantages of darkness while holding disadvantages to an acceptable level--can often upset what would be the "normal" balance of combat power by gaining surprise and capitalizing on the psychological influences of night. That the Japanese were unable to do this is to their debit and to the credit of the Americans who learned how to use night for their own purposes.

Essentially the same tactics as those in the Pacific developed on the mainland in the China-Burma-India theatre in response to the same conditions of terrain and enemy tactics.⁷¹ Such a development is hardly surprising, but it does point up the fact that American forces were able to adapt their tactics to the existing circumstances. Thus, in Africa where conditions were right for them, night attacks had much success and became a quite popular, though by no means exclusive, method of operation. In the Pacific under different conditions night attacks were avoided almost entirely.

The lesson that night attacks are appropriate in some settings but not in all was borne out in the Pacific as the fighting progressed to

⁷¹Charles N. Hunter, "Report of Overseas Observations," (Undated, distributed by Army Ground Forces, Washington: 17 February 1945), p. 9. This report covers the period September 21, 1943 to 3 August 1944 during which time Col. Hunter commanded or was second in command of the 5307th Composite Unit (Prov) ("Merril's Marauders"), and other units in the China-Burma-India theatre.

the Philippines. The experience here also indicated again the advantage of being both superior enough in combat power to be able to adjust one's tactics to changing environments and flexible enough of mind to be willing to do so. A Sixth Army summary of lessons learned during the Luzon campaign reviewed the experience of operations in the jungle and then described the transition which took place in the Philippines and the reasons therefor.

Our operations in the Philippines have presented a more normal picture as conceived by training doctrine and have resulted in a marked increase in our employment of troops at night. Reconnaissance patrols are gaining valuable information of enemy defenses; combat patrols are successfully operating to ambush the enemy and hinder his movement; small night attacks against limited objectives are succeeding with excellent results; night evacuation and supply are entirely practicable; and movement of our troops under the concealment of darkness has often caught the enemy off balance. This transition to offensive night activity can be attributed to the following factors:

1. Open terrain, not densely wooded, affording a relatively good road net, and our first opportunity for long range observation.
2. Dry weather, which has greatly enhanced mobility of troops and vehicles.
3. Existence of better maps and improved aerial photography, especially in areas lacking heavy jungle growth.
4. Availability of excellent guerrilla guides.
5. Veteran, combat experienced troops.
6. General inadequate preparation by the enemy for defense against night attacks. (Inaccurate and uncoordinated fire, loss of control, poor communications and insufficient security.)

Our present and future operations may be expected to produce many situations in which night activity will offer the best chances for success. Circumstances have changed to give us a decided advantage in this type activity, and troops should be indoctrinated with the realization that when employed in appropriate situations, night operations can succeed at much less cost to themselves.⁷²

The decidedly favorable results of this increased night activity were magnified by the fact that it was a change in the pattern of U. S.

⁷²U. S., War Department, Sixth U. S. Army, "Operations in the Dark," Combat Notes, Number 6 (20 April 1945), pp. 1-2.

action. Based on prior experience, the Japanese expected no night attacks from U. S. forces and his security was often lax.

During this same campaign the 33rd Division gained some valuable experience from their night attack operations.

In the 33rd Division we have always believed that we can operate at night and that there are many advantages to be gained by doing so. In the Toem-Maffin Bay-Sarmi areas of New Guinea and again on Morotai we learned through actual experience that night movement even in the jungle was not only possible but very often desirable. On Luzon we have had an opportunity to conduct night operations and to compare their effectiveness with similar operations conducted in daylight. As a result, night operations are highly favored by our combat commanders.

A captured Japanese document made the interesting comment that American troops were "daylight" fighters and declared that we stopped our tactical activities and dug in a few hours before darkness. The following examples tend to prove the document somewhat in error.⁷³

... There followed several specific examples of successful company and battalion night attacks on Luzon. Based on these examples the 33rd Division reached some conclusions about the relative merits of night attacks which could well serve as a guide for doctrine. They contain some hard headed, clear thinking about when to and when not to attack at night.

We do not advocate night operations as a panacea for all ills; rather we encourage its use only after a thoughtful analysis of each situation. In such an analysis the following points seem worthy of consideration.

When night movement of friendly forces restricts the employment of artillery and automatic weapons, and the attitude of the enemy is such that he will attack our positions, we should not move at night outside of defensive installations. In such cases we can do more damage to the Jap by having him come to us where we can place prepared fires on him. (Example: During the night of April 9-10 an estimated 100 Japs attacked defensive position of Co F, 136 Infantry (plus HMG section of Co H). Our position was wired with double apron fence, and the heavy machine guns and artillery

⁷³U. S., War Department, 33rd Infantry Division, "Night Operations, " Operational Highlights (15 May 1945), p. 5.

had planned defensive fires. In one attack against our position we killed 32 Japs without suffering a single casualty.)

When the attitude of the enemy is such that he moves about promiscuously but does not attack our positions, then the elements are all in our favor for ambush operations and we should ambush all trails, routes and avenues the Jap uses. (Example: During three nights of ambush operations (19-21 March 45) our forces in the Bauang-Naguilian area killed 104 Japs at a cost of one slightly wounded casualty to ourselves.)

In circumstances where neither of the above conditions exist it is definitely to our advantage to employ free movement at night and to harass the enemy in his defensive positions and to attack him.⁷⁴

Note especially in these conclusions the pointed references to the types of conflict classified in Chart 1 of Chapter III and the discussion of how night influences each one. Again, experience on the battlefield corresponds closely to the results secured from the analysis. And so, of course, it should; any conclusions from the analysis must rest on judgment, which in turn evolves in large part from experience.

There were other types of fighting in World War II, of course, but this hasty treatment picks the major lessons from the most significant kinds which went on.

In summarizing the entire experience of World War II, then, one can say that environmental conditions went far to determine the influence of night on the attacker's relative combat power and, therefore, the extent to which the night attack was used. In the open desert and clear weather of North Africa night attacks were a favorite method of operation, even for units as large as a field army, as at El Alamein. In Sicily the night attack was still a popular technique, but probably accounted for a smaller part of total operations than had been the case

⁷⁴Ibid., pp. 8-9.

in Africa. As operations moved up the Italian peninsula the nature of combat changed from a war of extended maneuver into a dogged, step-by-step slugging match between determined opponents in forbidding terrain. Under these conditions night attacks by small units stayed an important part of all operations, but fighting continued by day as well to exploit the air and artillery superiority of the Allied forces.

The small unit aspect of most night attacks was pointed up clearly by the Chief of the G-3 Training Section, Headquarters Fifth U. S. Army, based on the experience of U.S. forces in Italy. He said, "The nature of night operations are such that they become a series of small unit operations, dependent largely for success on the ability of leadership at the small unit (squad) level."⁷⁵

Two regimental commanders who were asked to comment on this statement agreed except that they thought the platoon leader was the critical level of leadership in night operations.⁷⁶

Similar experience accrued in the other theatres except for some large scale attacks in North Africa. In western Europe the war again took the form of extended maneuver, to a greater extent than in Italy and to a lesser extent than in Africa. Night attacks followed suit. In extensive maneuver supported by wide ranging tactical air the necessity for long range observation called for mostly daylight operations. When the travel slowed and the fighting picked up, units resorted to night operations more frequently, but still to a lesser extent than in Italy. Finally, the Pacific demonstrated initially an almost total

⁷⁵U.S., War Department, Army Ground Forces, "Board Report A-114, MTO," Headquarters Army Ground Forces, 3 December 1943, p. 5.

⁷⁶Ibid.

absence of night attacks. In fact, the night perimeter defense in the jungle became not only a reflex but a conscious tactic adopted to capitalize on the Japanese habit of making repeated, uncoordinated, and poorly executed night attacks. Later, in the more open country of the Philippines, night attacks by small units were used to good advantage.

By and large the experience of our enemies in World War II bears out the analysis, too, as indicated by the experience of the Germans outlined at the beginning of the chapter. The Japanese experience has already been treated. Their insistence on conducting uncoordinated night attacks is clear evidence of the high price one must pay who ignores or fails to overcome the disadvantages of night attacks.

The experience of American forces in Korea during the first year of the conflict there--its mobile phase--furnishes an interesting trial of the concepts outlined in Chapter III. Again the terrain was mountainous, as in Italy, although not to the same extent in some areas. But in Korea the enemy was less well equipped with long range firepower than in Italy and relied to a much larger degree on infantry strength as a source of combat power. As a result, even in the difficult terrain American forces relied almost exclusively on daylight attacks in order to capitalize on their distinct air, armor, and artillery superiority over first North Korean and later Chinese forces. To fight at night became the recognized Chinese tactic--a tactic dictated by the need to avoid American fire superiority. Again, fire superiority plus the ability to control proved a workable combination; night attacks, not required by operational circumstances, were resorted to very

infrequently. American superiority in combat power during daylight augered poorly for night attacks.

Thus, General Matthew B. Ridgway, as Eighth Army commander, directed his units to take advantage of this fire superiority to destroy Chinese during the daytime, and permitted U.S. units to "button-up" in a perimeter at night.⁷⁷

In this case a different enemy on a very similar terrain produced different results from those which developed in Italy in World War II. Again, the analysis of the four types of conflict and the effect of night on them is confirmed by experience, and again night acts to equalize combat power among adversaries.

None of this should be taken to mean that there were no successful night attacks in Korea. The significant point is that there were few--and these mostly in special circumstances. Many counterattacks, for example, were launched at night because of the proclivity of the Chinese for attacking at night.

In many cases these limited scale night counterattacks were conducted in a manner designed to take maximum advantage of both darkness and U.S. fire superiority. In one such company size counterattack in which the author was involved in April of 1953 the approach to the position was made under cover of darkness and artillery fire on the objective. When the company reached its assault positions the artillery was shifted forward of the objective and illumination fired

⁷⁷James F. Schnable, "Ridgway in Korea," Military Review, Volume XLIV, Number 3 (March 1964), p. 11. See also S. L. A. Marshall, Infantry Operations and Weapons Usage in Korea (Winter of 1950-1951) (Chevy Chase, Md.: Operations Research Office, The Johns Hopkins University, 1953), passim.

over the objective to assist in both controlling the assault (type I conflict) and locating the enemy so as to be able to destroy him by assault fires (type IV conflict). The attack was successful, to a substantial degree because of the visibility which was provided during the assault and reorganization by artificial illumination.

The only point of relating this incident is to illustrate that all the ins and outs of the analysis developed here are not simply suppositions. The approaches suggested by this analysis have really worked when lead was flying.

No claim whatsoever is made about this skimming of the historical pot being an exhaustive treatment. Nonetheless, it does seem fair to say that the general lessons of recent combat experience are consistent with the theoretical framework advanced in Chapter III.

Accepting this conclusion, there remains only a brief consideration of certain important developments since Korea before the doctrinal implications can be extracted from the analysis.

CHAPTER VI

DEVELOPMENTS SINCE KOREA

Three major changes in the division since Korea merit special attention. The first is the addition of nuclear weapons to the division's firepower capability. The second is the reorganization of the division under what has come to be called the ROAD concept of flexible tactical tailoring within the division. Finally, the influence of new equipment--especially new mechanical mobility means--needs to be examined to see what the effect has been on night attack capability.

The point was made at great length in Chapter III that relative combat power and changes therein were the central concerns of the analysis. The treatment here will discuss only the effect on absolute night capability; however, because to treat relative capability requires a discussion of the changes in the organization, equipment, and doctrine of potential opposing forces. Such a treatment is beyond the scope of this paper.

The impact of nuclear weapons on night attacks is no more certain than their influence on any other form of combat. Target acquisition will be harder at night than in daylight, of course. But, depending on the tactics which develop, more total targets may exist at night. This would be the case if, for example, units dispersed and stayed in place during the daylight to avoid detection; and massed for

attack--or defense--only at night. In such circumstances the division's night surveillance capability becomes especially important. Nonetheless, it would seem that nuclear weapons clearly increase the division's total combat power in the two types of conflict in which friendly fires are used. The relative combat power of a force which depends heavily on nuclear weapons may still decrease at night as compared to daylight, much as that of a force largely dependent on conventional fires now does, simply because target acquisition is bound to be considerably harder at night than in daytime.

Using nuclear fires to support a night attack is risky business. A 20KT explosion can cause retinal burns on the eye at slant ranges up to 40 miles for those persons who happen to be looking at the fireball.¹ Even in severely restricted visibility conditions this effect can extend to a slant range of 4 miles for those persons who are completely dark adapted and happen to be looking directly at the fireball.²

Dazzle or flash blindness can occur at distances greater than these and in persons who are not looking directly at the fireball. These effects are caused by levels of energy too low to cause burns but too high for image formation; such levels bleach out the visual elements of the retina. Recovery takes from a few seconds to several days, depending on the intensity of the dazzle.³

¹U.S., Department of the Army, The Effects of Nuclear Weapons, Department of the Army Pamphlet Number 39-3 (Washington: April 1962), p. 575.

²Ibid.

³Ibid., p. 576.

Consider, now, the position of a commander whose unit is making a night attack. To employ a nuclear weapon in support of this attack he risks blinding for varying periods almost the entire force; only those who at the exact moment of the burst are adequately protected will retain any vision at all; even they are likely to lose their dark adaptation. Even artificial illumination for the rest of the attack will help little. Those caught by flash blindness are not just night blind; they are literally blind as bats for varying periods of time after the burst.

Furthermore, who are the people most likely to be up and about when a burst goes off? Precisely those people whom the commander can least afford to have incapacitated, the leaders at all levels who will be busy exercising control over the rest of the force.

Of course there are warning systems, but they suffer from precisely the same shortcomings at night as do all other measures. The more effective they are for protection of friendly troops (say pyrotechnics, a series of airplane flares, or other widely visible signals a few minutes or seconds prior to the burst) the more likely they are to warn the enemy as well, thereby decreasing the effectiveness of the nuclear fires.

In summary, it would seem that while nuclear preparations fired prior to the time the maneuver force crosses the line of departure could be employed with acceptable levels of risk, any nuclear shots while a maneuver force is moving through the darkness risks rendering that force completely ineffective for significant periods. Change 1 to FM 61-100, The Division, surely indulges in the understatement of the manual when it says, "careful consideration is given to use of

on-call nuclear fires [during a night attack] because of the difficulty of providing effective warning."⁴

Nothing in this analysis addresses itself to the division's need to fight at night in an active nuclear environment. The conclusion here is simply that possession of nuclear weapons does little to enhance the division's capability to attack at night. In fact, the greater the degree to which the division relies on nuclear weapons for combat power, the less likely it is to be able to attack effectively at night because of the difficulties of integrating nuclear fire with night maneuver.

In terms of the fire and movement classification developed in Chapter III, nuclear fires have increased tremendously the destructive powers of the fire component of combat power. Depending on its mission, the division may be able to accomplish it by nuclear fires alone. But at the same time enemy use of nuclear weapons will seriously degrade the division's movement capability, so the net result of moving from a nonnuclear to a nuclear environment--or, in the current jargon, from a nonactive to an active nuclear environment--is by no means unambiguous.

The almost universal tendency of night to act as an equalizer among unequals bears remembering here. It would seem that night would be especially advantageous to a force which was inferior in nuclear firepower since it could use the concealment of darkness to avoid or diminish the effectiveness of opposing nuclear fires. If this effect be present, to the extent that the division is able to amass nuclear

⁴U.S., Department of the Army, The Division, Field Manual 61-100 (Washington: 1962, with Changes Number 1, 1963), p. 123.

superiority in daylight it will be less likely to find night attacks to its advantage. Considering this and the very real difficulties of using nuclear fires effectively at night without interfering with our own forces, nuclear night attacks will probably be relatively rare.

In any case, the introduction of nuclear weapons has not reduced any capability to operate at night the division otherwise had. About the only conclusion one can reach is that the introduction of nuclear weapons into the division's arsenal really has not changed materially the division's ability to attack at night.

The latest reorganization of the division has reestablished the battalion as the control headquarters next superior to companies and has introduced the brigade between battalion and division control levels.

Restructuring the division to return to the battalion as the basic fighting unit should increase the division's capability to fight at night by decreasing the span of control over what it was in the ROCID organization. Since control is the most difficult element of the night attack, an increase in the ability to exercise control should increase the ability to attack at night.

Further, the concept of flexible tactical tailoring of brigades for specific missions which underlies the ROAD organization is more readily adaptable to the increased control requirements of night attacks. If necessary, a brigade headquarters can be used to coordinate the efforts of and division support for two or even a single battalion in the night attack, freeing the battalion headquarters to concentrate on the more immediate problems of control. Thus, if a night attack be decided upon, the ability to conduct it should be facilitated by the control

elements available in the new division organization. Moreover, the very availability of these control facilities should contribute toward the decision to make night attacks, simply because they can be controlled somewhat more effectively than was the case under previous organizations.

Nevertheless, nothing in the new organization has changed appreciably the control facilities available from company level down. At this level the problems of control become crucial in the night attack. From company level up control is exercised at night largely indirectly by electronic communication, while from company level down control is exercised to a much larger extent by direct personal contact. Thus, there still remain very formidable control problems at company level and below in conducting a night attack. These control problems are largely independent of the division's organizational structure above company level since they deal mostly with the internal operating problems of the company itself. The division structure may influence the ability of other units to support the company, though.

On balance, it would seem that the new division organization should improve the division's night attack capability, but only slightly. Moreover, it would seem that because night attacks are for the most part small unit operations, the division's night attack capability is likely to be largely insensitive to reorganizations above the company level. Most of the night fighting is done at company level or below; reshuffling the headquarters above this level will change but slightly the division's ability to fight successfully at night. The division's night fighting capability is likely to be much more sensitive to training at squad, platoon, and company level than to any organizational

arrangements at any level. But so, of course, is the division's ability to do anything else.

The new equipment of significance to the division's night attack capability falls into two major categories. First is that making for greater mobility and second is that making for better surveillance and control capabilities.

Principally the increases in mobility came from more personnel carriers and more aircraft than previous division organizations had. This mechanical mobility detracts not at all from the ability of soldiers to walk; where they can be employed, the new vehicles decrease considerably the difficulties of traversing terrain. Further, it is obviously easier to control a squad riding in an armored personnel carrier or a helicopter than a squad crashing through the underbrush on foot. By sharply increasing the speed of movement and by facilitating the retention of control through later stages of the operation, the new mobility means bolster markedly the division's night attack capability. Aggressive and intelligent employment of these new means should go far in offsetting the major drawback of night attacks, the control problem.

Again, there is no implication here that transportation solves all the problems. Still, having it detracts nothing from any capability which existed without it. People can still walk. But, having, where feasible, other ways to transport them farther, faster, and under better control means that the new division can do many night attack jobs better than the old could. That is, better mobility means that the new division has greater absolute combat power at night than did the old division; relative combat power at night will still depend on the factors outlined in Chapter III.

Other new items of equipment have had less pronounced effects, but still contribute to night attack capabilities. The new ground radar sets provide an additional means of keeping up with the location of and controlling friendly forces in the night attack as well as seeking out information on enemy movements. Other radar sets, infrared devices, and special night photographic techniques enhance the division's night target acquisition capabilities, thereby raising the effectiveness of night fires. The state of training of the division and the availability of these devices bear on how well the division can conduct a night attack, and therefore on the decision about whether or not to attack at night. The better it can operate at night, the more readily will the division choose to attack at night.

New devices and improvements in existing devices can be expected to continue the trend towards offsetting the difficulties of night operations. One of the most promising developments is the image intensifier, a device which magnifies the small amount of visible light into a useable image.

As with any other technical innovation, a net advantage accrues to the force which first employs such devices. Effective enemy use of night surveillance devices could decrease considerably any advantages of night over day actions. Nonetheless, it will probably be a long time--if ever--before night neither offers greater concealment than daytime nor generates harder control problems. To the extent that night vision devices offer aids to the solution of control problems without detracting from the concealment afforded by darkness, they offer a net increase in the division's relative combat power.

The difficulty with all current devices is precisely that their advantages are bought at the expense of giving up the chief benefit of darkness, concealment. For this reason and because of their technical limitations, night vision devices have made to date only marginal contributions to the division's night combat power.

In conclusion, then, the net result of major changes in the division since World War II should be an increase in its night combat power. The effect of using nuclear weapons is by no means certain. Supporting night attacks with other than preattack nuclear weapons is likely to be exceedingly dangerous business because of the flash blindness problem. Similarly, enemy weapons can disrupt night operations over ranges far in excess of those associated with the primary effects of blast and radiation.

The truth of the matter is that other considerations of nuclear weapons effects are likely to outweigh any considerations of troop warning difficulties. If night becomes the only feasible time for attacks, then attack at night the division will, supported by nuclear fires if need be. If the enemy uses nuclear weapons, the concealment of night will probably be more important to the attacker than the difficulty of getting on-call nuclear support. Even so, night attacks usually will be conducted in spite of, not because of, the impact of nuclear weapons on night combat power.

The reorganization of the division probably helps to a limited extent in the solution of the ever present control problem. Analysis discloses, however, that the division's ability to fight at night is likely to be insensitive to reorganizations above company level.

Finally, the division's new mobility means are a clear cut increase in its ability to attack at night, and other equipment advances promise marginal improvements in the division's night attack capability.

None of these developments can be effective, however, unless personnel of the division are trained in exploiting the opportunities they can afford. Thus, one comes full circle to the not very profound but nonetheless unavoidable conclusion that the principal determinant of the division's night attack capability is the state of training of its units, particularly at lower echelons. That this state of training is in large measure a reflection of the commander's attitude toward night operations is a truism. Still, it is no less important for being obvious.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

This analysis has developed a theory on the influence of darkness on the relative combat power of a division in the attack. That theory has been tested against military experience, with primary emphasis on World War II. Experience has confirmed the theory in each set of circumstances tested, although experience to test each contingency covered by the theory has not been available. What, then, does this analysis have to add to the doctrine on night attacks?

The additions are modest. First, both the theory and the experience reviewed generally confirm the soundness of current doctrine on how to conduct night attacks. What this analysis adds is specific guidance to the commander on when to conduct a night attack and a systematic procedure for insuring that all the relevant considerations are incorporated into the commander's evaluation. This guidance is developed in terms of the fundamental considerations of any armed encounter, fire and maneuver.

Specific doctrinal recommendations are contained in the appendix to this chapter. Using these considerations the commander can determine whether, in the specific circumstances facing him, attacking at night is likely to increase or decrease his chances of success.

Moreover, the analysis has developed some general characteristics of night operations which are applicable to all night operations. These can be applied more in an editorial restatement of some elements of current doctrine than in any substantial change in that doctrine. This restatement aims at presenting the doctrine in a more orderly arrangement than that now used.

Another finding of the analysis has to do with the relationship between command echelon and frequency of night attacks. Almost without exception the lessons of combat experience indicate that night attacks are confined to small units, usually battalion or below. Even when larger units participated in night attacks, they almost always did so by employing elements no larger than battalions in separate sectors. Therefore, division level night attacks involving the truly coordinated employment of two or more brigades are likely to be exceedingly rare.

Finally, the present analysis has concluded that the night attack doctrine of the division is largely independent of the organization of the division above the company level because most of the night fighting is done by company or battalion sized units. Reinstatement of the battalion headquarters probably increased somewhat the night attack capability of the division because of the increased control facilities provided. Beyond this level, however, the particular form of organization is likely to have little impact on the doctrine for night attacks.

An examination of both the theory and the experience of night attacks discloses that by far the largest single factor in the division's ability to attack at night is the state of training of its small units-- company, platoon, and squad. The better trained these units are the

less they are hampered by the difficulties of control encountered at night and the more readily they can exploit the advantages of night concealment.

Still, the same examinations disclose that for all their potential benefits, night attacks in the American Army have formed a small part of all attacks. This is probably due at least in part to the high value placed by our society on human life and the consequent heavy reliance on firepower so characteristic of American military forces. Given a unit which has no training, it is more important that it learn to attack by day first, taking advantage of the tremendous amount of firepower available to it and learning to coordinate the employment of firepower and maneuver. Then any training it can get in night attacks will enhance its ability to engage in combat at any time of the day.

Another reason for the infrequent use of night attacks by American forces is found in the role of night as a great equalizer. American society has devoted large amounts of resources to create military units with superior combat power. Night makes this combat power harder to apply in many respects, thereby often serving to reduce what was a substantial daytime superiority.

It is almost as if two individual combatants faced each other, and one of them had superior firepower or superior movement capability or both in daylight. Say one was a big, fast man with a gun, the other was a little, slow man without a gun. Clearly the big, fast armed man has superior combat power in daylight. Just as clearly, his superiority is much less at night. If the little man happens to be experienced in operating in the dark for some reason and is more familiar with his surroundings, he may well even have a total as well

as a relative advantage at night. In any case, the role of night as an equalizer is clear from this example. More importantly, the same effect shows up in numerous combat examples.

In conclusion, then, night operations, to include night attacks, are an important but usually minor part of total military operations. There are some very real difficulties associated with the night attack; but, to extent that these can be overcome, there are very real advantages to be gained from skillful use of night attacks. Contrary to the protestations of some proponents, night attacks are not a short cut to success. To be an effective instrument, the technique must be used properly; as is the case with most other effective instruments, there are rather severe penalties associated with failure to use night attacks properly.

The final recommendation of this paper is an injunction to stop pretending that night attacks are routine, for there are some very special conditions which apply; to stop pretending that they are a solution to every problem confronting the commander, for there are very real difficulties and risks involved; to stop concentrating only on the advantages of night and ignoring the disadvantages; and to learn where night attacks are appropriate, where they are not, and how they may be used to make the greatest possible contribution to the accomplishment of the division's mission.

APPENDIX 1 TO CHAPTER VII

RECOMMENDED CHANGES TO CURRENT DOCTRINE

Current Doctrine¹

Section XI. Night Combat

170. General.

a. Night combat is an integral part of all operations. Movement, attack, exploitation, and defense at night are routine. However, certain aspects and considerations must be recognized during the planning and execution of operations at night. These involve the increased difficulty of control resulting from reduced visibility.

Recommended Doctrine

Section XI. Night Combat.

170. General.

a. Night combat is an integral part of all operations. The division conducts operations to accomplish its missions under all environmental conditions. Therefore, the division conducts at night all types of combat operations, to include movement, attack, defense, retrograde, and relief. The division may operate at night to secure greater relative combat power than in daylight or because it is required to do so to accomplish its mission.

Comment. The word "routine" in current doctrine can be misunderstood to mean that there are no differences between night and daylight operations. The context of the following paragraphs makes clear that this is not the intent but rather that the idea is simply that there will be many night operations of all types in the division. The revision makes this single point in the first subparagraph, and then distinguishes between the two kinds of night operations: those to gain relative combat power and those required for other reasons. The last two sentences of current doctrine contain another idea, which the revision covers in the next subparagraph.

¹All current doctrine taken from Department of the Army Field Manual 61-100, The Division, 4 January 1962, with Changes No. 1, 27 March 1963, paragraphs 170-72, pages 119-21.

Current Doctrine

b. Night operations which achieve surprise may offer opportunities for success when daylight operations are impracticable. Continuous pressure applied day and night, particularly against a weakening enemy, hastens his defeat.

Recommended Doctrine

b. The principles of night operations are the same as the principles for daylight operations. However, certain techniques require special emphasis to exploit the opportunities and overcome difficulties of night operations. The effects of night on the division's relative combat power are considered when making a night attack, to insure exploitation of opportunities and planning for special difficulties.

Comment. Current statement is an argument for attacking at night or a possible advantage of attacking at night. Reasons for the statement are not offered; moreover, the statement is true of operations at night or day, and is therefore not appropriate in a paragraph devoted to the general aspects of night combat. Revision aims at making the point made in the last part of current subparagraph 170a on the requirement for special attention to certain aspects of night operations although basic fundamentals remain unchanged from day to night.

c. Troop movements, concentration of forces prior to the attack, and conduct of an attack which may be impossible during daylight may be executed in darkness with minimum risk.

c. Night operations are characterized by reduced visibility. This affords increased concealment to both friendly and enemy forces. It also complicates the problem of control and coordination in the generation of combat power by fire and movement.

Comment. Again, current doctrine spells out advantages of successful night operations without specifying why those advantages arise. Revision covers these points under the basic considerations in a more logical and orderly framework. Revision calls attention to the fundamental difference between night and day and the general nature of the effect this difference has on the conduct of military operations. It sets the stage for a more detailed treatment of the effects of darkness in the next paragraph.

d. Operations in smoke, fog, haze, thick jungle and other conditions of reduced visibility use the special techniques of night operations.

Current Doctrine

171. Basic Considerations.

a. Night combat is characterized by a decrease in the effectiveness of aimed fire and a corresponding increase in the importance of close combat and supporting fires.

Recommended Doctrine

171. Basic Considerations.

a. The fundamental elements of the combat environment (mission, enemy situation, terrain and weather, own situation) are the same at night as in daytime. However, night changes the way certain aspects of these fundamental elements affect combat operations. The commander considers the influence of night on the division's ability to use fire and maneuver and on the enemy's ability to interfere with the division by using fire and maneuver. The net result of these influences determines the change caused by night in the division's relative combat power.

Comment. For the most part the revisions of this paragraph consist of rearranging the points already covered by current doctrine into a more orderly framework. This framework spells out the overall fire and movement approach to evaluating night's effect on relative combat power. Then it treats the advantages of night operations, then the difficulties. With each difficulty is stated the methods employed by the division to overcome the particular difficulty. The principal advantage of this presentation over current doctrine is that it groups like considerations in the same place, eliminates duplication, and juxtaposes difficulties with methods for overcoming them.

Some slight editorial changes are made. For example, "impossible" in subparagraph 170c of current doctrine is changed to "unacceptably risky" and "with minimum risk" in the same subparagraph is changed to "at acceptable levels of risk." Though not substantive changes, these rephrasings are designed to improve the clarity of the doctrine by removing ambiguities.

b. Morale of troops both friendly and enemy is highly sensitive to physical and psychological factors. Reverses and failures at night generally affect troops more than the same reverses or failures would in daylight. Well-trained troops, confident of their ability to fight at night, can use these psychological factors in their favor.

b. Darkness decreases substantially the visual observation capability of both opposing forces. The division exploits the advantages this affords.

(1) Surprise is easier to achieve at night because troop movements or dispositions are harder to detect.

Current Doctrine

c. Darkness increases difficulty of movement, maintenance of direction, and control. The time required to execute movements and emplace weapons is greater at night than in daylight. Simple schemes of maneuver with well-defined objectives and routes simplify control. Leaders must be well forward in attacking echelons. Full use is made of navigational aids to assist in maintenance of direction.

Recommended Doctrine

(2) The effectiveness of aimed and observed fires, especially directed fires, decreases. Correspondingly, the importance of close combat and preplanned supporting fires increases.

(3) Movements of all kinds, to include reliefs, attacks, defenses, and retrograde operations, which may be unacceptably risky in daylight because of enemy observation and fire capability may be made at acceptable risk levels at night.

c. Reduced visibility increases the difficulty of exercising control. The division adopts such measures as are required to retain effective control during night operations.

(1) Movements are slower and maintenance of direction is harder at night than in daylight. Most tasks (e.g., employment of weapons, construction of bridges, etc.) take longer at night. Formations which facilitate control are used, consistent with requirements for security.

(2) Coordination between friendly units is harder to effect. Mutual interference among friendly units is much more likely to occur at night than in daytime. Coordination of fires, nuclear and nonnuclear, with movement is harder. Schemes of maneuver, fire support plans, and control measures are specified in enough detail to secure maximum coordination of effort consistent with prevention of mutual interference among friendly forces.

(3) Leaders at all echelons can see less and can be seen by fewer of their subordinates at night than in day-

Current Doctrine

d. Subordinate commanders must have adequate time for reconnaissance. They should be able to observe, during daylight, terrain over which their units will move in order to fix terrain features which will aid maintenance of direction.

Recommended Doctrine

light. Instructions and information are harder to transmit. Leaders are well forward to keep abreast of the situation and exercise effective control at the decisive point.

(4) Effective battlefield surveillance and target acquisition are harder at night than in daylight. The division aggressively employs patrols, listening posts, electronic devices, and artificial illumination to secure information of the enemy and to counter enemy information collection efforts. Daylight reconnaissance is used to secure information which will be needed at night.

(5) Darkness increases troop safety problems in the use of nuclear fires because of dazzle. Dazzle from friendly or enemy detonations can cause loss of night vision adaptation and temporary flash blindness. Troop safety and warning procedures are augmented to guard against dazzle. Plans for artificial illumination are made to minimize the effects of dazzle on friendly troops. On call nuclear fires are used only after careful consideration of possible effects of dazzle on friendly troops.

d. Artificial illumination is used to increase visibility at a time and place advantageous to the division. Consideration must be given to the possible aid which illumination may afford the enemy. Close coordination is effected to prevent interference with the operations of adjacent friendly units. Illumination in rear areas may facilitate performance of combat support and combat service support tasks. Artificial illumination may be

Current Doctrine

e. Coordination of nuclear fires with maneuver at night is difficult. Darkness increases troop safety considerations because of loss of night vision adaptation. Obstacles created by nuclear fires are difficult to traverse at night. Nuclear fires may destroy landmarks which were to be used as control measures.

f. Enemy use of nuclear weapons may affect the vision of attacking or defending troops rendering them temporarily less effective. Fires created by nuclear weapons may assist in identification of objectives and maintaining direction but may also silhouette forces of either side.

172. The Night Attack

a. General.

(1) The same considerations of planning, preparation, and conduct apply to attacks at night as apply during daylight. The same forms of maneuver may be used. Night attack plans, however, are usually less flexible than those of daylight attacks.

Recommended Doctrine

of particular value to armor units with their long range direct fire capability.

e. All combat and combat support units can operate at night. However, darkness affects the employment of some units more than others and requires special emphasis on measures to insure coordination of effort. Careful planning is required to use all units to their maximum capability at night.

f. Because of reduced visibility the morale of troops, both friendly and enemy, is particularly sensitive at night to psychological influences. Reverses and failures at night will generally affect troops more than those same reverses or failures would in daylight. Well-trained troops able to exploit the advantages of darkness can use this factor to their advantage. Conversely, troops not experienced in night operations must be closely controlled when operating at night. The state of training of the troops is a very important factor in the division's ability to exploit the advantages of night operations.

172. The Night Attack

a. General

(1) The division attacks at night because it is required to do so either by order or by the situation, or because the commander elects to exploit the advantages of attacking at night. Attacks in progress are not discontinued merely because of nightfall.

Current Doctrine

(2) The division attacks at night to continue an attack started in daylight, to achieve surprise and psychological superiority, to gain important terrain for further operations, to use concealment afforded by darkness in order to avoid heavy losses, to exploit, and to compensate for friendly air and armor inferiority.

Comment. Current doctrine covers some but not all of the reasons the division attacks at night, intermixing attacks that are required and those that are launched to take advantage of darkness. Revised doctrine categorizes night attacks as those required and those launched voluntarily. This classification is more inclusive than current doctrine and sets the framework for a consideration in succeeding subparagraphs of when it is to the division's advantage to attack at night even though it may not have to.

Recommended Doctrine

(2) The same considerations of planning, preparation, and conduct apply to attacks at night as to day attacks. The same forms of maneuver may be used.

(3) Because of the increased difficulty of control at night, night attacks generally involve simpler schemes of maneuver and are generally less flexible than daylight attacks.

b. Basic Considerations.

The decision to attack at night depends on the division's mission and the commander's evaluation of the effect of night on the division's relative combat power.

(1) Mission. The time of attack may be specified in or determined by the division's mission. The influence of night on relative combat power bears on the choice of a time of attack only when the division can accomplish its mission with either a daylight attack or a night attack.

(2) Relative Combat Power. Successful offensive action requires the concentration of superior combat power at the decisive point and time. This may be easier or harder for the division to do at night than in daylight depending on how night affects the division's capability to conduct effective fire and maneuver in the face of enemy resistance.

Current DoctrineRecommended Doctrine

(a) Fires, both friendly and enemy, are less effective at night than in daylight because of reduced visibility.

(b) Maneuvering to gain an advantage over the enemy may be easier or harder at night than in daylight, depending on the nature of the principal obstacle to effective maneuver. When enemy observation or fires are the principal obstacles, effective maneuver is facilitated by darkness. When terrain, enemy movement, or control of friendly forces are the principal obstacles, maneuvering against the enemy to gain an advantage over him will be harder at night than in daylight.

(c) The technical capabilities, state of training, and tactics of the opposing forces determine the extent of these influences. The increased chances of gaining surprise at night usually favor the attacker.

(d) When the commander has an option he elects to attack at night only when the division's relative combat power is increased by darkness. When required to attack at night, the commander exploits advantages of night and offsets disadvantages by special emphasis on control measures and detailed, simple plans for integrating fire and maneuver.

Comment. This subparagraph is entirely new. Nothing in current doctrine addresses in a systematic and comprehensive manner the question of what circumstances favor and what circumstances mitigate against the night attack. Several isolated statements of current doctrine are replaced by this subparagraph because they are incorporated into the analysis included in the revised doctrine. For example, the current doctrinal statement that the division attacks "to compensate for friendly air and armor inferiority" is included in the discussion of the effect of enemy fire superiority on the division's ability to maneuver.

Current Doctrine

Current doctrine is not wrong; it is simply incomplete. There may be times when the division has air and armor when it will still be to its advantage to attack at night (e.g., Italy in World War II). By the same token, there may be circumstances where the increased concealment afforded by night operates to the division's decided disadvantage (e.g., when fighting guerrillas). Revision replaces incomplete "for instance" type guidance with a systematic framework for evaluating influence of night on division's relative combat power. Last sentence of revision is a reminder that division must be able to operate day or night to accomplish missions.

b. Planning.

(1) The procedures involved in planning attacks at night are the same as for daylight attacks. Items are listed below for emphasis.

(2) The decision to make a night attack is made sufficiently in advance to provide time for reconnaissance, detailed planning, and coordination. The use of warning and fragmentary orders and concurrent planning is habitual. Successful attacks can be made at night on an impromptu basis, but the risk of failure is greater. Attacks in progress are not discontinued merely because of nightfall. Subordinate units in the attack plan to continue the attack through the night unless ordered otherwise.

(3) The concept for the night attack must be simple and planned in detail. The scheme of maneuver, fire support plan, and control measures are carefully specified.

Recommended Doctrine

c. Planning.

(1) Once the decision is made to attack at night, the planning procedures are the same as for daylight attacks. Some items which merit special attention are listed below.

(2) Attacks in progress during the day are not discontinued merely because of nightfall. Subordinate units in the daylight attack plan to continue the attack unless ordered to do otherwise.

(3) The decision to make a night attack is made in time to permit reconnaissance, detailed planning and coordination, and issuance of orders. Warning and fragmentary orders are used habitually. Successful night attacks on an impromptu basis are possible, but the risks of failure of an impromptu attack are greater at night than in daylight.

Comment. Minor changes, mostly editorial, have been made in certain parts of this subparagraph to make the entire revised doctrine a unified presentation. There are no substantive changes in this section.

Current Doctrine

(4) through (7)

- d. Coordination and Control.
- e. Battlefield Illumination.
- f. Fire Support.
- g. Conduct of the attack.

Recommended Doctrine

Same as present 172b(4) through (7).

Same as present 172c.

Same as present 172d.

Same as present 172e.

Same as present 172f.

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